MARKET FORECAST AND ANALYSIS OF THE

PROFESSIONAL SERVICES SECTOR

OF THE DATA PROCESSING INDUSTRY IN SELECTED U.S. SITES

INPUT

About INPUT

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Continuous-information advisory services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services (software, processing services, turnkey systems, systems integration, professional services, communications, systems/software maintenance and support).

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialization. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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A MARKET FORECAST AND ANALYSIS OF THE PROFESSIONAL SERVICES SECTOR

(Including Data on Vendor Site Systems Operations)

For
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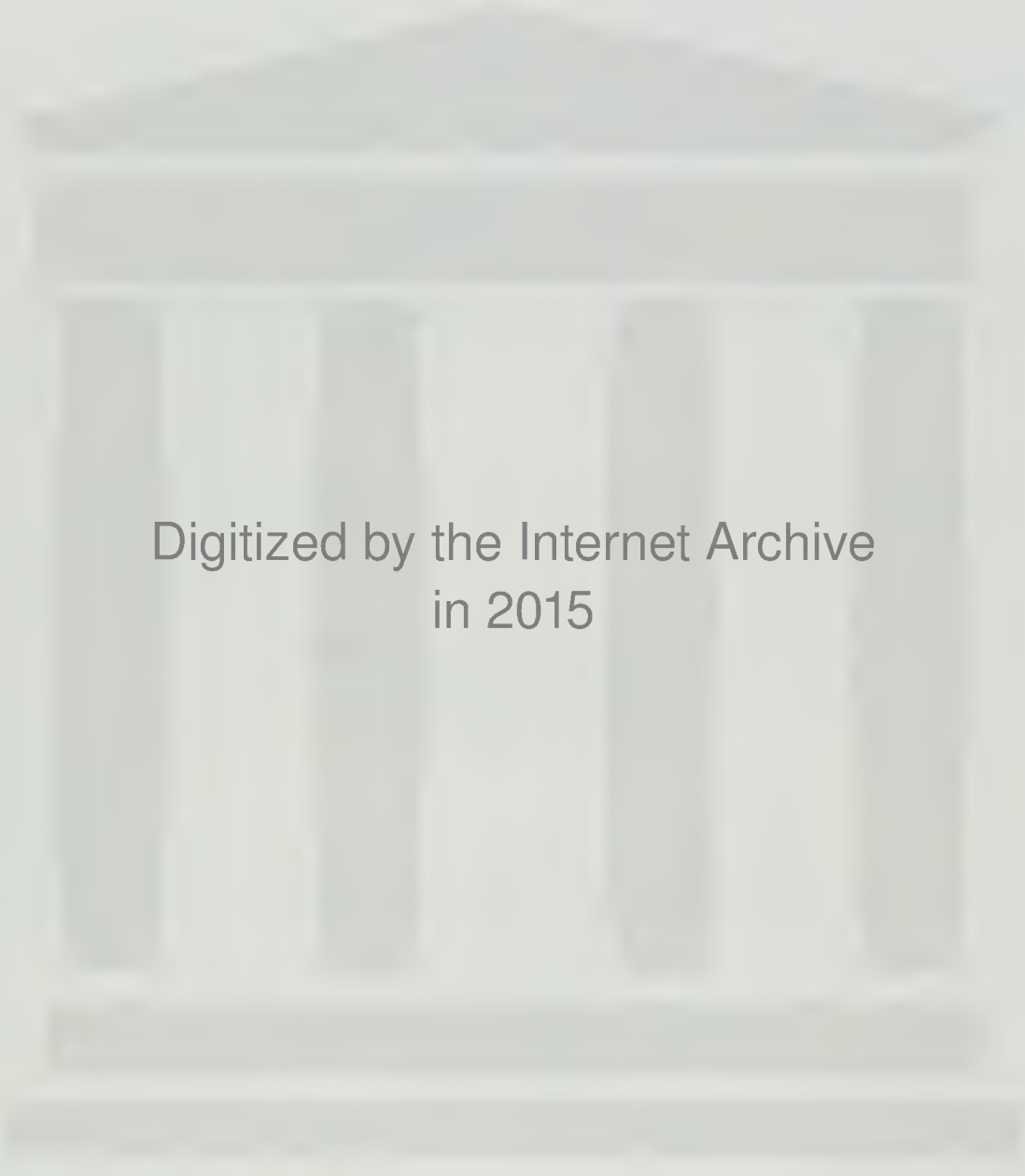

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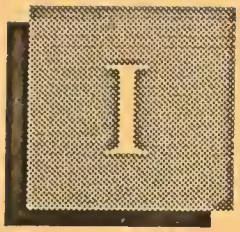
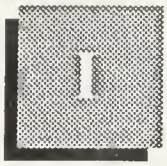


Introduction



Introduction

A Objectives

IBM has been a long-time subscriber to INPUT's Market Analysis Program, which sizes, analyzes, and forecasts the U.S. information services market. The Market Analysis Program analyzes the market in terms of delivery mode (e.g., professional services, software, processing, etc.) as well as by market (e.g., vertical markets). IBM has found that this method of information delivery is useful; however, IBM needs to bring together into one place all INPUT's information related to the professional services market. IBM has requested that INPUT regroup and reanalyze previously assembled data and analysis to focus specifically on professional services. The reasons for doing so include:

- To produce a finer granularity in market sizing and forecasting, especially for professional service delivery submodes by vertical market and leading vendors and associated market share by vertical market
- To identify issues that are driving specific segments of professional services (by submode and/or vertical industries)
- To apply IBM vertical industry segmentation/definitions where they differ from INPUT's
- To apply IBM's economic assumptions

The reanalysis of information contained in this report provides IBM with a single-point information source that unites market sizing, forecasting, competitive analysis, and sector trend analyses.

B

Scope

Professional services (including the professional services component of systems integration) are segmented for the purposes of this report into 17 industry groups, as described in the IBM-supplied document *Industry Classification Codes*. Within each industry, the data is allocated into the following professional services submodes:

- Consulting
- Software Development
- Education and Training
- Systems Operations

Note: The professional service component of systems integration is allocated among the four submodes above, as well as separately summarized.

INPUT's systems integration forecasts include the information technology portions of the federal government budgets for defense and civil agencies. The application of most off-the-shelf technology is included. Milspec systems and commercial systems that are embedded in weapons platforms are not included in INPUT's market forecasts. In addition, INPUT does not attempt to acquire and forecast the information technology and services used in classified systems.

A parallel analysis of systems operations (processing services) is included for each industry segment to contrast the professional services component of systems operation (i.e., that provided at the customer's site) with the processing services component of systems operation (i.e., that provided at the vendor's site).

The following information is supplied by professional services submodes as well as for systems operations - processing services for each industry:

- Market size
- Leading vendors and their market share. **Note:** Generally, specific market share information is shown for five vendors or for at least half the applicable market (whichever is larger).
- Other vendors active in a market
- Up-and-coming vendors: i.e., those that may not yet be among the market leaders but have a unique or compelling approach and/or have targeted a particular market

Information is also provided on key applications in each industry.

A discussion of professional services-related issues in each industry analysis is included. These issues include:

- Trends, technology impacts, etc.
- Reasons for a vertical market being significantly above or below average
- Reasons for vendor success, vendor strategies, etc.
- Generally speaking, systemic industry trends are not noted. Exceptions are those that directly affect professional services or systems operations - processing services (e.g., the upheavals in retail department stores).

Where systems operations (processing services) issues are different, these are distinguished and discussed.

In cases where there have been changes to market sizing/forecasts from prior years, this is noted and the reasons given. (Generally, if the change is significant in terms of size or direction, this is discussed in the main text; small, technical changes will be explained in a Reconciliation appendix.)

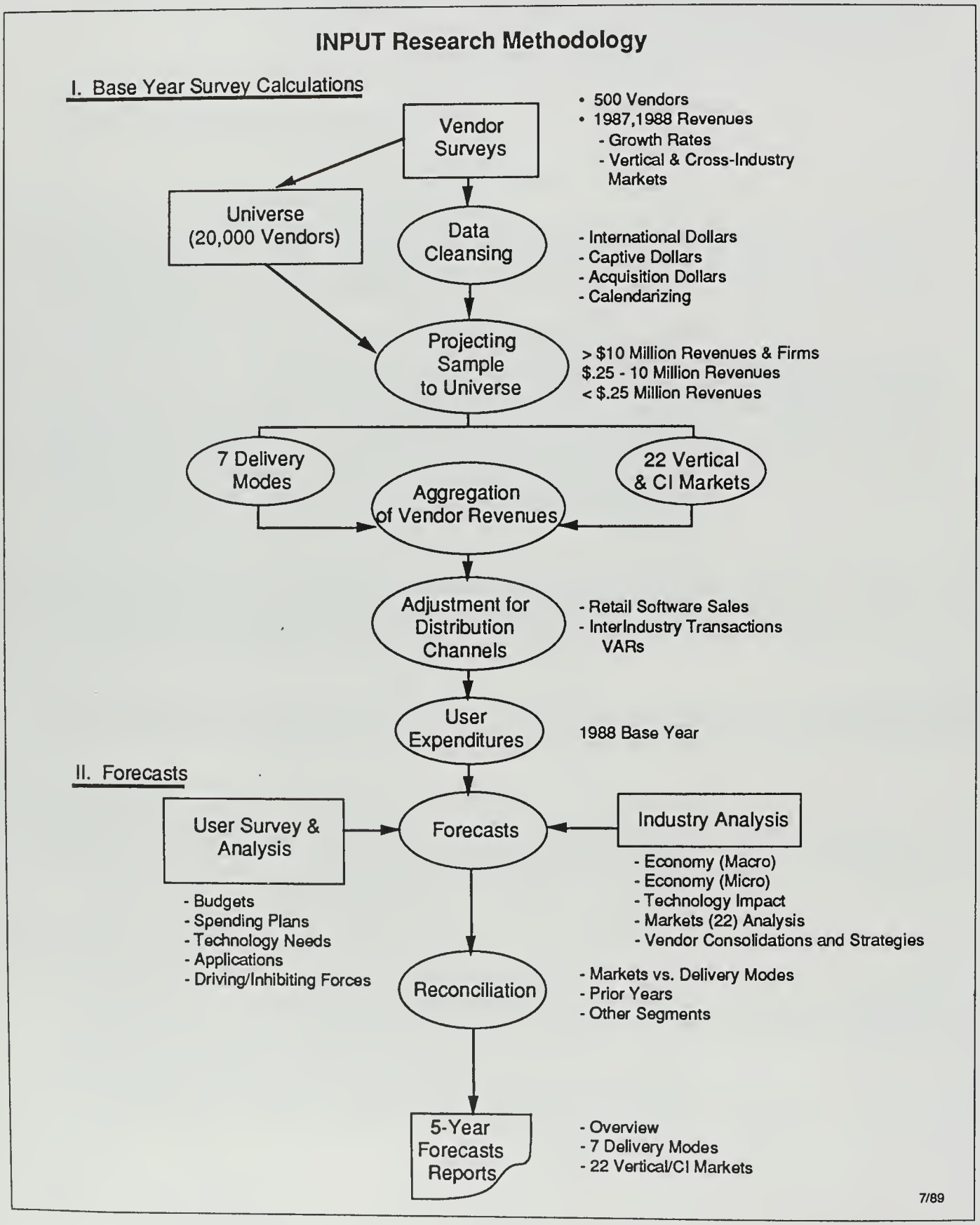
The basic source for information has been INPUT's 1989 Market Analysis Program reports, data bases, and underlying analyses. Analysis and secondary research has been performed as required (for example, to spread and identify professional services revenues of particular vendors).

C Methodology

This report is a combination of INPUT's IS forecasts, quantitative analysis, factual information, and industry knowledge.

A. During the second quarter of 1989, INPUT conducted in-depth interviews with 600 information services vendors, including nearly all of the largest 224 firms, with revenues of $20 million or more. These surveys and estimates provided the initial vendor revenue estimates for 1988. Total base year (1988) revenues are then summed into six delivery modes and 15 vertical and seven cross-industry segments for closer analysis and five-year projections. Only U.S revenues and professional services noncaptive revenues were examined for this forecast. Conversion factors were applied to convert the vendor revenues to user expenditures. The conversion factors used for the information in this report can be found in the report *U.S. Professional Services Markets, 1989-1994*. Exhibit I-1 depicts the INPUT research methodology used in preparing the INPUT IS forecasts.

EXHIBIT I-1


INPUT Research Methodology
I. Base Year Survey Calculations
Vendor Surveys
• 500 Vendors
• 1987,1988 Revenues
- Growth Rates
- Vertical & Cross-Industry Markets
Universe (20,000 Vendors)
Data Cleansing
- International Dollars
- Captive Dollars
- Acquisition Dollars
- Calendarizing
Projecting Sample to Universe
> $10 Million Revenues & Firms
$.25 - 10 Million Revenues
< $.25 Million Revenues
7 Delivery Modes
22 Vertical & CI Markets
Aggregation of Vendor Revenues
Adjustment for Distribution Channels
- Retail Software Sales
- InterIndustry Transactions
VARs
User Expenditures
1988 Base Year
II. Forecasts
User Survey & Analysis
- Budgets
- Spending Plans
- Technology Needs
- Applications
- Driving/Inhibiting Forces
Forecasts
Industry Analysis
- Economy (Macro)
- Economy (Micro)
- Technology Impact
- Markets (22) Analysis
- Vendor Consolidations and Strategies
Reconciliation
- Markets vs. Delivery Modes
- Prior Years
- Other Segments
5-Year Forecasts Reports
- Overview
- 7 Delivery Modes
- 22 Vertical/CI Markets
7/89

B. Quantitative Analysis

1. INPUT created 15 worksheets, one for each major industry sector as defined by INPUT. Each worksheet contained the following information:

- A list of the two-digit Standard Industrial Classification (SIC) codes that compose the industry sector
- For each INPUT-defined sector, a crosswalk definition of the IBM-defined industry sector
- An algorithm for moving the INPUT-defined sector data to the appropriate IBM-defined sector
- Where sectors do not match, an allocation factor was derived from SIC data from the U.S. Department of Commerce and INPUT's judgment of professional services market potential.

2. A computer program was applied to INPUT's data base to:

- Delete the INPUT inflation factors from the original INPUT professional services market forecast
- Execute algorithms to segment the INPUT data and recast it in the IBM format
- Apply the IBM-defined inflation factors
- Create the new forecast data in the format defined by IBM for each of the 18 industry sectors
- Create the new forecast data for each of the five professional services delivery modes as well as system operations (processing services)

3. All data was reviewed for reasonableness.

D
Factual Information

INPUT assembled the following from its data bases and vendor files:

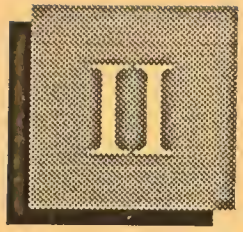
- Vendors in a particular industry sector, with sizing as reported in INPUT's data bases
- Up-and-coming vendors
- Contract information as identified in INPUT's Corporate Project Data Base, information from the study *IS Management in the Year 2000*, and data collected from vendors for INPUT's Vendor Analysis Program and Systems Integration Program

E

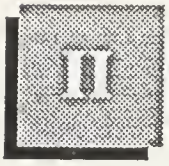
Industry Knowledge

Knowledge of the information services industry, professional services, and individual industry sectors was added throughout the project. Tasks where this knowledge was applied include:

- Allocation between INPUT-defined and IBM-defined industry sectors
- Review of market size crosswalks
- Allocation of particular vendor revenues across industries
- Allocation of particular vendor revenues across submodes
- Vendor strategies and positioning
- Identification of applications by industry and submode
- Identification of, and rationale for, up-and-coming vendors
- Classification of contracts between "professional services," "systems integration," and "systems operations"
- Issue and trend identification



Professional Services Market Overview



Professional Services Market Overview

A

Industry Forecast, 1989-1994

The INPUT forecast for the professional services, systems operations (processing), and systems integration markets is shown in Table 1 of the Appendix. There are many factors driving these forecasts, among them the following:

1. Professional Services

User requirements and the changing computer systems business continue to create the demand for professional services. The continuing applications backlog represents a key demand driver. The use of fourth-generation languages helps users create solutions to relatively simple needs. However, major system upgrades lag user requirements by one and one-half to two years.

Mergers and acquisitions among user organizations lead to potential for service vendors. Linking disparate mission-critical systems and applications solves major problems and heightens user awareness of professional services capabilities.

The lack of skilled personnel at user sites creates a demand for professional services. This lack places the burden on the vendors to recruit and train personnel with specialized IS capabilities.

New technologies have driven, and continue to drive, the demand for professional services. Users cannot implement and stabilize technologies as fast as vendors can create new ones.

2. Systems Operations

The major forces driving the SO market include executive management looking to IS to develop solutions that make a difference in the overall competitive posture of their businesses. Many companies are recognizing that computer operations, particularly the non-mission critical systems, do not make a difference in the competitiveness of the firm. They are looking to outside vendors to free their internal resources and investment capital for strategic development activities.

3. Systems Integration

Competitive pressures are forcing organizations to examine their core businesses and identify business solutions that can help to differentiate their products and services in the market. In many cases, the application of technology can make the difference in offering services faster or reducing product development cycles.

It has also become apparent that an increasing amount of IS expenditures are no longer being controlled by the IS organizations. It is the users that are becoming the buyers of IS solutions and control the budgets for these projects. Systems integrators with good track records provide an attractive alternative to internal IS organizations to develop systems that will meet the user's requirements.

B

Service Submode Forecast

The submode forecasts are presented as subsets of the industry forecasts in Table 1. Professional services, by INPUT's traditional definition, include software development, consulting, education and training, and systems operations (traditionally referred to as facilities management). Systems integration includes a hardware component and a professional services component. This analysis focuses on the professional services portion of SI, excluding the revenue from computer and communications hardware. This professional services portion is presented as the components of software development, design/integration, project management/ consulting, education & training, operations/maintenance, software products, and other services.

C

Key Applications

Key applications for each industry are listed in Exhibit II-1, first by generic application category and then, as appropriate, by specific industry system. In general, the exhibit indicates that the applications to which professional services are being applied are diagonal in nature; that is, applications with similar functionality are required in multiple industries. To be sure, each industry has specific requirements for the application, creating the diagonal notion.

D
Competition

1. Major Vendors in Professional Services

Exhibit II-2 presents the largest professional services vendors and their respective market share by submode of service. Although literally thousands of professional firms exist, the market is dominated by 35 vendors in the $100 million club.

2. Major Vendors by Industry

An analysis in Exhibit II-3 of the top 10 vendors in each vertical market indicates that only 25 vendors are in the top tier in multiple industries and only 10 of these are among the top in more than five industries. In total, some 60 different vendors top the revenue list for the 17 industries.

E
Key Issues

Issues that are having and can continue to have a significant impact on professional service business in multiple vertical markets are described below. Many of these issues appear to have an impact in almost all vertical markets, but their impact is probably greater in terms of incremental professional service work in the markets indicated in Exhibit II-4.

1. Speeding up Transaction Processing

In order to respond to situations that can have a financial or service impact on clients, it is necessary to upgrade computer systems to respond to needs more rapidly. There are pressures to speed up the entry of orders in wholesale distribution so that needed supplies can be shipped more quickly, to process financial transactions more rapidly in banks so that customers can meet financial commitments or not lose availability or interest on funds, and to respond immediately to needs for service in many fields such as state and local government.

2. Integrating Networks

The introduction of many separate networks to meet business needs in discrete manufacturing, finance, securities, and other fields has created a situation where funds can be saved, future needs can be more easily met, and backup and other capabilities can be gained by integrating existing networks.

3. Integrating Applications and Data Bases

Many companies have applications and data bases that feed data back and forth that need to be combined to increase efficiency in processing and to reduce the use of redundant data and all the problems and errors that can result. The lack of integrated systems makes it difficult or impossible to analyze services provided to customers and the profitability of those services, or to analyze and improve the efficiency of operations.

4. Shortages of IS Personnel

Due to relatively low wages, not planning for or not hiring sufficient personnel, or the existence of unfavorable working conditions, shortages of IS personnel exist in some vertical markets.

5. Shortages of Personnel with High Levels of IS Knowledge

A number of vertical markets are in need of IS expertise to handle complex development, data management, and other jobs. There may be a limited number of people available with the skills required or personnel practices may not encourage people with expertise to stay with companies in these markets.

6. Electronic Information

The use of electronic data interchange (EDI) to order and pay for supplies in manufacturing or for orders from a retailer to a wholesaler is becoming more frequent. A number of purchasing, distribution, accounting, and other systems are being upgraded or modified to handle EDI. There is also increasing use of electronic parts descriptions by the federal government, aerospace, and other industries to exchange product data and to transmit data directly to automated tools. Software is being upgraded to handle this type of data.

7. Pressures to Reduce Costs and/or Improve Productivity

A number of systems modifications are being made and consulting is taking place with the objective of reducing business as well as IS costs. System changes and training are being made for the purpose of improving productivity in functional organizations.

8. Dealing with Mergers and Acquisitions

In vertical markets where mergers and acquisitions are taking place, there is often a need to modify the applications of one company so that it will accommodate the work of a company that is being acquired or merged.

9. Regulatory Pressures

These pressures involve the work and reports necessary to support deregulated activities and the work to make changes to systems in environments where regulations are changing.

10. High Levels of Reporting to Government Offices

Some vertical markets suffer more than others in complying with new or modified requirements for information from federal, state, and local government offices. Banks seem to handle these requests as a matter of course, but utilities, higher education, transportation, and other vertical markets have had to use professional service firms to develop reporting systems or make modifications to applications to meet these needs.

11. Customer Support/Service

In order to hold on to customers or attract new ones, firms in a number of vertical markets have been led to upgrade systems that handle service and support. The intensity of service demands from customers has also made some companies realize that automated services will be more economic than placing additional people on phones to handle the increasing number of questions.

12. Customization

As the use of application packages has grown, the demand for services to modify applications has also grown. Some vendors such as Computer Task Group and On-Line Systems have gained a reputation for modifying the software of certain software vendors. Products are also being developed to help design the changes that have to be made to application packages.

EXHIBIT II-1: KEY APPLICATIONS BY INDUSTRY

APPLICATION CATEGORY	INDUSTRY APPLICATION	DISCRETE MANUFACTURING	PROCESS MANUFACTURING	UTILITIES	FINANCE	SECURITIES	DISTRIBUTION
Accounting & Finance	Accounting	X		X		X	X
	MRP II and Related	X					
Billing/Processing	Billing						
	Card Processing				X		
	Claims Processing						X
	Clearance & Settlement					X	
	Collection, Ass'ment						
	Collection/Analysis		X				
	Patient Management						
	Payment Processing						
	Reservation Systems						
Customer Service	Customer Service	X	X	X			X
Data Collection	Automatie Meter Reading			X			
	Order Entry	X	X				X
	POS & Related						X
Human Resources	Benefits Admin.						
	Ed. Process Monitoring						
	Employee Training						
	Personnel Mgmt.						
Marketing	Marketing			X			
	Merchandising						X
Office Information System	Agent Systems						
	Decision Support						
	Desktop Publishing						
	Integ. Publishing						
	Integrated Comm.						
	Integrated Hosp. Sys.						
	Networks	X					
	Office Info. Systems						
Operations Automation	Applic. Development						
	Automated Warehouse						X
	CAD/CAE	X					
	Consumer Loan				X		
	Correspondence Banking				X		
	Integrated Logistics						
	Inventory Management	X					
	Laboratory Automation						
	List Management						
	Operations	X					
	Portfolio Management					X	
	Process Control		X				
	Public Safety & CAD						
	Securities Transfer					X	

APPLICATION CATEGORY	INDUSTRY APPLICATION	DISCRETE MANUFACTURING	PROCESS MANUFACTURING	UTILITIES	FINANCE	SECURITIES	DISTRIBUTION
	Trading & Funds Systems				X		
	Warehouse Automation						
racking & Analysis	Audience Analysis						X
	Case Load Management						
	Court & Crim. Justice						
	Geographic Info. Systems			X			
	Maintenance Scheduling		X				
	Planning						
	Plant Maintenance	X					
	Project Management						
	Records Management						
	Risk Analysis						
	Work Sched., Mgmt.						

EXHIBIT II-1: KEY APPLICATIONS BY INDUSTRY

APPLICATION CATEGORY	INDUSTRY APPLICATION	INSURANCE	STATE & LOCAL GOVERNMENT	HEALTH	COMMUNICATIONS	TRANSPORTATION	MEDIA
Accounting & Finance	Accounting	X		X	X		X
	MRP II and Related						
Billing/Processing	Billing			X	X	X	X
	Card Processing				X	X	
	Claims Processing	X					
	Clearance & Settlement						
	Collection, Ass'ment		X				
	Collection/Analysis						
	Patient Management			X			
	Payment Processing	X					
	Reservation Systems					X	
Customer Service	Customer Service	X			X		
Data Collection	Automatic Meter Reading						
	Order Entry						
	POS & Related						
Human Resources	Benefits Admin.						
	Ed. Process Monitoring						
	Employee Training						
	Personnel Mgmt.						
Marketing	Marketing	X					X
	Merchandising						
Office Information System	Agent Systems	X					
	Decision Support						
	Desktop Publishing						
	Integ. Publishing						X
	Integrated Comm.						
	Integrated Hosp. Sys.			X			
	Networks		X				
	Office Info. Systems						
Operations Automation	Applic. Development						
	Automated Warehouse						
	CAD/CAE						
	Consumer Loan						
	Correspondence Banking						
	Integrated Logistics						
	Inventory Management						
	Laboratory Automation			X			
	List Management						X
	Operations						
	Portfolio Management						
	Process Control						
	Public Safety & CAD		X				
	Securities Transfer						

APPLICATION CATEGORY	INDUSTRY APPLICATION	INSURANCE	STATE & LOCAL GOVERNMENT	HEALTH	COMMUNICATIONS	TRANSPORTATION	MEDIA
	Trading & Funds Systems						
	Warehouse Automation						
Tracking & Analysis	Audience Analysis						X
	Case Load Management		X				
	Court & Crim. Justice		X				
	Geographic Info. Systems						
	Maintenance Scheduling				X		
	Planning				X		
	Plant Maintenance						
	Project Management						
	Records Management						
	Risk Analysis	X					
	Work Sched., Mgmt.						

EXHIBIT II-1: KEY APPLICATIONS BY INDUSTRY

APPLICATION CATEGORY	INDUSTRY APPLICATION	CONSULTANTS	COMPUTER SERVICES	HIGHER EDUCATION	SCHOOLS	FEDERAL GOVERNMENT
ccounting & Finance	Accounting		X	X	X	X
	MRP II and Related					
illing/Processing	Billing					
	Card Processing					
	Claims Processing					
	Clearance & Settlement					
	Collection, Ass'ment					
	Collection/Analysis					
	Patient Management					
	Payment Processing					
	Reservation Systems					
ustomer Service	Customer Service					
ata Collection	Automatic Meter Reading					
	Order Entry					
	POS & Related					
uman Resources	Benefits Admin.			X		
	Ed. Process Monitoring				X	
	Employee Training		X			
	Personnel Mgmt.			X		
arketing	Marketing		X			
	Merchandising					
ffice Information System	Agent Systems					
	Decision Support	X				
	Desktop Publishing	X			X	
	Integ. Publishing					
	Integrated Comm.			X		
	Integrated Hosp. Sys.					
	Networks					
	Office Info. Systems	X			X	X
erations Automation	Applic. Development		X			
	Automated Warehouse					
	CAD/CAE					
	Consumer Loan					
	Correspondence Banking					
	Integrated Logistics					X
	Inventory Management					
	Laboratory Automation					
	List Management					
	Operations					
	Portfolio Management					
	Process Control					
	Public Safety & CAD					
	Securities Transfer					

APPLICATION CATEGORY	INDUSTRY APPLICATION	CONSULTANTS	COMPUTER SERVICES	HIGHER EDUCATION	SCHOOLS	FEDERAL GOVERNMENT
	Trading & Funds Systems					
	Warehouse Automation					
racking & Analysis	Audience Analysis					
	Case Load Management					
	Court & Crim. Justice					
	Geographic Info. Systems					
	Maintenance Scheduling					
	Planning					
	Plant Maintenance					
	Project Management	X				
	Records Management					X
	Risk Analysis					
	Work Sched., Mgmt.					X

EXHIBIT II-2: 1989 COMPETITIVE MARKET STRUCTURE - TOTAL MARKET

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
International Business Machines	210	5%	421	3%	156	7%	28	2%	815	4%
Andersen Consulting	177	4%	413	3%	120	5%	18	1%	728	4%
Computer Sciences Corporation	150	3%	337	3%	80	4%	150	9%	718	3%
Electronic Data Systems	146	3%	303	2%	99	4%	90	5%	638	3%
Unisys	103	2%	338	3%	54	2%	3	*	498	2%
Systems Applications Int'n'l Corp.	100	2%	156	1%	37	2%	55	3%	348	2%
Digital Equipment	58	1%	227	2%	40	2%			325	2%
Martin Marietta Info. Systems	68	2%	180	1%	40	2%	5	*	293	1%
Boeing Computer Services	59	1%	129	1%	38	2%	49	3%	275	1%
AGS Computers/NYNEX	14	*	217	2%	8	*			239	1%
BDM International/Ford	33	1%	127	1%	10	*	59	4%	229	1%
Planning Research Corporation/ATI	69	2%	109	1%	36	2%			214	1%
Control Data Corporation	22	1%	136	1%	41	2%			199	1%
Arthur D. Little	95	2%	79	1%	14	1%			188	1%
McDonnell Douglas Systems Integration	30	1%	118	1%	15	1%	23	1%	186	1%
Computer Task Group	22	1%	135	1%	12	1%	5	*	175	1%
AT&T	31	1%	79	1%	18	1%			128	1%
KPMG (Peat Marwick)	16	*	107	1%	5	*			128	1%
Deloitte & Touche	28	1%	94	1%	4	*			126	1%
Price Waterhouse	57	1%	59	*	8	*			124	1%
Cap Gemini America	5	*	105	1%	12	1%	2	*	123	1%
Grumman Data Systems	34	1%	61	*	12	1%	13	1%	120	1%
Cincinnati Bell Information Services	11	*	29	*	61	3%	4	*	106	1%
SHL Systemhouse	19	*	79	1%	1	*			99	*
American Management Systems	9	*	62	1%	6	*	11	1%	88	*
TRW, Inc.	16	*	52	*	9	*	4	*	81	*
National Education Corporation					76	3%	1	*	77	*

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
Syscon Corporation			55	*	5	*			60	*
Policy Management Systems	17	*	41	*					58	*
SEI Corporation	6	*	37	*	1	*			44	*
Securities Industry Automation	16	*	11	*					27	*
Shared Medical Systems	3	*	9	*	1	*	4	*	17	*
Citicorp Information Resources	1	*	10	*			5	*	16	*
Automated Data Processing							6	*	6	*
Systematics										
SUBTOTAL	1626	38%	4315	35%	1020	46%	534	32%	7495	37%
OTHER VENDORS	2697	62%	8003	65%	1192	54%	1146	68%	13038	63%
TOTAL MARKET	4323	100%	12318	100%	2212	100%	1680	100%	20533	100%

* = < 1%

EXHIBIT II-2: 1989 COMPETITIVE MARKET STRUCTURE - TOTAL MARKET

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) [1] ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) [2] ($M)	(%)	SYSTEMS OPERATIONS (PROCESSING) [3] ($M)	(%)
International Business Machines	262	9%	350	10%	21	*
Andersen Consulting	406	14%	465	13%	19	*
Computer Sciences Corporation	190	6%	260	7%	172	4%
Electronic Data Systems	242	8%	296	8%	533	12%
Unisys	140	5%	201	6%		
Systems Applications Int'n'l Corp.	130	4%	180	5%		
Digital Equipment	57	2%	91	3%		
Martin Marietta Info. Systems	184	6%	230	6%		
Boeing Computer Services	85	3%	127	4%	55	1%
AGS Computers/NYNEX	37	1%	50	1%		
BDM International/Ford						
Planning Research Corporation/ATI	107	4%	142	4%	5	*
Control Data Corporation	83	3%	128	4%	9	*
Arthur D. Little						
McDonnell Douglas Systems Integration	25	1%	72	2%	59	1%
Computer Task Group	38	1%	40	1%		
AT&T	18	1%	31	1%		
KPMG (Peat Marwick)	22	1%	35	1%		
Deloitte & Touche	12	*	19	1%		
Price Waterhouse	4	*	5	*		
Cap Gemini America	8	*	10	*		
Grumman Data Systems	47	2%	74	2%		
Cincinnati Bell Information Services					1	*
SHL Systemhouse	10	*	15	*		
American Management Systems	10	*	19	1%	24	1%
TRW, Inc.	10	*	18	1%	25	1%
National Education Corporation					38	1%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) [1] ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) [2] ($M)	(%)	SYSTEMS OPERATIONS (PROCESSING) [3] ($M)	(%)
Syscon Corporation					20	*
Policy Management Systems	2	*	4	*	80	2%
SEI Corporation					43	1%
Securities Industry Automation	3	*	4	*	120	3%
Shared Medical Systems					124	3%
Citicorp Information Resources					94	2%
Automated Data Processing					174	4%
Systematics					157	4%
SUBTOTAL	2132	72%	2865	81%	1773	41%
OTHER VENDORS	843	28%	680	19%	2560	59%
TOTAL MARKET	2975	100%	3545	100%	4333	100%

NOTE 1 - The professional services components of systems integration are included here for informational purposes; these dollar amounts are allocated to the appropriate professional services categories.

NOTE 2 - This column includes the other information services components of systems integration (software products and "other") that are not professional services-related. This column is for informational purposes only.

NOTE 3 - This column is included for informational purposes only. These figures are not included in "Systems Operations - Services"

* = < 1%

EXHIBIT II-3: TOP 10 VENDORS BY INDUSTRY BASED ON 1989 REVENUE

VENDOR	DISCRETE MANUFACTURING ($M)	PROCESS MANUFACTURING ($M)	COMMUNICATIONS ($M)	COMPUTER SERVICES ($M)	CONSULTANTS ($M)	HEALTH ($M)	HIGHER EDUCATION ($M)
TOTAL MARKET	3428	1914	677	44	7	568	85
AGS Computers/NYNEX	82		29				
AT&T							
American Management Systems				2	0.2		3
Analytical Sciences Corp. (The)							
Andersen Consulting	159	111	19	1	0.1	49	1
Arthur D. Little						15	
Automated Data Processing							
BDM International/Ford							
Boeing Computer Services		23					
Cap Gemini America				3	0.6		4
Cincinnati Bell Information Services			31		0.5		
Citicorp Information Resources							
Combustion Engineering							
Computer Curriculum Corporation							
Computer Data Systems, Inc.							1
Computer Horizons			17				
Computer Power Group Americas							
Computer Sciences Corporation	70	31	34	6	0.5	25	
Computer Task Group	94			4	1.1		
Continuum Company (The)							
Control Data Corporation					0.2		4
Coopers & Lybrand		59					
Cyborg Systems				1			
DMR							
Deloitte & Touche		46				16	
Digital Equipment		36	35				9
Disclosure, Inc.							
Electronic Data Systems	87	57	17				
Ernst & Young							
Fluor	58						
GTE			22				
Goal Systems							
Grumman Data Systems							
HBO & Company						27	
Harris		40					
Intermetrics							
International Business Machines	161	125	19	3		16	7
KPMG (Peat Marwick)		74					
Keane, Inc.						17	
Logica/Data Architects				4			
MARC, Inc.					0.3		

VENDOR	DISCRETE MANUFACTURING ($M)	PROCESS MANUFACTURING ($M)	COMMUNICATIONS ($M)	COMPUTER SERVICES ($M)	CONSULTANTS ($M)	HEALTH ($M)	HIGHER EDUCATION ($M)
TOTAL MARKET	3428	1914	677	44	7	568	85
Martin Marietta Info. Systems							
McDonnell Douglas Systems Integration	72		18	5	0.5	30	
National Education Corporation							
OAO Corp.							
Pentamation							
Planning Research Corporation/ATI							
Policy Management Systems							
Price Waterhouse	60					15	
Prime/Computervision							1
SEI Corporation							
SHL Systemhouse							
Science Management Corp.							
Securities Industry Automation							
Shared Medical Systems						17	
Systems & Computer Technology							5
Systems Applications Int'n'l Corp.							
TRW, Inc.							
Texas Instruments							
Unisys	76		33	1			
VISA USA							

NOTE: * = < $1M

EXHIBIT II-3: TOP 10 VENDORS BY INDUSTRY BASED ON 1989 REVENUE

VENDOR	MEDIA ($M)	SCHOOLS ($M)	STATE & LOCAL GOVERNMENT ($M)	TRANSPORTATION ($M)	UTILITIES ($M)	DISTRIBUTION ($M)	FINANCE ($M)	INSURANCE ($M)
TOTAL MARKET	719	29	2409	224	529	1289	2036	1476
AGS Computers/NYNEX			34				77	
AT&T						17	30	
American Management Systems		1.6						
Analytical Sciences Corp. (The)				9				
Andersen Consulting	19		62	29	56	60	84	47
Arthur D. Little				12	27	17		28
Automated Data Processing								
BDM International/Ford								
Boeing Computer Services			40					
Cap Gemini America	12	2.0					36	26
Cincinnati Bell Information Services	11							
Citicorp Information Resources								
Combustion Engineering					17			
Computer Curriculum Corporation		0.4						
Computer Data Systems, Inc.								
Computer Horizons								
Computer Power Group Americas				6				
Computer Sciences Corporation			70			57	34	44
Computer Task Group	20							
Continuum Company (The)								27
Control Data Corporation	13	1.1		8	41	18		
Coopers & Lybrand								
Cyborg Systems								
DMR						28		
Deloitte & Touche						19		20
Digital Equipment		2.4	36		39			
Disclosure, Inc.								
Electronic Data Systems			50		14	48	51	58
Ernst & Young	20							
Fluor								
GTE								
Goal Systems		0.1						
Grumman Data Systems			39					
HBO & Company								
Harris								
Intermetrics				8				
International Business Machines	38	2.0		13	31	25	41	73
KPMG (Peat Marwick)					13			
Keane, Inc.								
Logica/Data Architects								
MARC, Inc.	23							

VENDOR	MEDIA ($M)	SCHOOLS ($M)	STATE & LOCAL GOVERNMENT ($M)	TRANSPORTATION ($M)	UTILITIES ($M)	DISTRIBUTION ($M)	FINANCE ($M)	INSURANCE ($M)
TOTAL MARKET	719	29	2409	224	529	1289	2036	1476
Martin Marietta Info. Systems								
McDonnell Douglas Systems Integration	10			12	12			27
National Education Corporation	12							
OAO Corp.			63					
Pentamation		1.5						
Planning Research Corporation/ATI					17			
Policy Management Systems								58
Price Waterhouse								
Prime/Computervision								
SEI Corporation							44	
SHL Systemhouse			38					
Science Management Corp.		2.1						
Securities Industry Automation								
Shared Medical Systems								
Systems & Computer Technology		0.4						
Systems Applications Int'n'l Corp.								
TRW, Inc.								
Texas Instruments							70	
Unisys			73	8				
VISA USA				22		32	37	

NOTE: * = < $1M

EXHIBIT II-3: TOP 10 VENDORS BY INDUSTRY BASED ON 1989 REVENUE

VENDOR	SECURITIES ($M)	FEDERAL GOVERNMENT ($M)	TOTAL TOP 10 MARKETS ($M)	NUMBER OF TOP 10 MARKETS
TOTAL MARKET	429	4671	20534	
AGS Computers/NYNEX			222	4
AT&T	27		74	3
American Management Systems			7	4
Analytical Sciences Corp. (The)			9	1
Andersen Consulting	31		728	15
Arthur D. Little			99	5
Automated Data Processing	6		6	1
BDM International/Ford		229	229	1
Boeing Computer Services		161	224	3
Cap Gemini America			84	7
Cincinnati Bell Information Services			43	3
Citicorp Information Resources	14		14	1
Combustion Engineering			17	1
Computer Curriculum Corporation			*	1
Computer Data Systems, Inc.			1	1
Computer Horizons			17	1
Computer Power Group Americas			6	1
Computer Sciences Corporation		337	709	11
Computer Task Group			120	4
Continuum Company (The)			27	1
Control Data Corporation		99	184	8
Coopers & Lybrand			59	1
Cyborg Systems			1	1
DMR			28	1
Deloitte & Touche			101	4
Digital Equipment			157	6
Disclosure, Inc.	21		21	1
Electronic Data Systems		243	625	9
Ernst & Young	6		26	2
Fluor			58	1
GTE			22	1
Goal Systems			*	1
Grumman Data Systems			39	1
HBO & Company			27	1
Harris			40	1
Intermetrics			8	1
International Business Machines		234	789	14
KPMG (Peat Marwick)			87	2
Keane, Inc.			17	1
Logica/Data Architects			4	1
MARC, Inc.			23	2

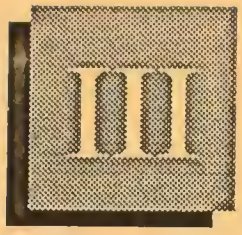
VENDOR	SECURITIES ($M)	FEDERAL GOVERNMENT ($M)	TOTAL TOP 10 MARKETS ($M)	NUMBER OF TOP 10 MARKETS
TOTAL MARKET	429	4671	20534	
Martin Marietta Info. Systems		293	293	1
McDonnell Douglas Systems Integration			186	9
National Education Corporation	7		19	2
OAO Corp.			63	1
Pentamation			2	1
Planning Research Corporation/ATI		182	199	2
Policy Management Systems			58	1
Price Waterhouse			75	2
Prime/Computervision			1	1
SEI Corporation			44	1
SHL Systemhouse			38	1
Science Management Corp.			2	1
Securities Industry Automation	27		27	1
Shared Medical Systems			17	1
Systems & Computer Technology			5	2
Systems Applications Int'n'l Corp.		348	348	1
TRW, Inc.	11		81	2
Texas Instruments			8	1
Unisys		224	498	8
VISA USA	9		9	1

NOTE: * = < $1M

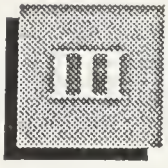
EXHIBIT II-4

Common Professional Service Issues Across Vertical Markets

	Speed-up Trans. Proc.	Integ. Nets	Integ. App. and DB	IS Pers. Short.	IS Exp. Short.	Elect. Info.	Costs Reduct.	Mergers/ Acqu.	Regulat. Improve-ment	Gov't Report-ing	Cust. Svcs. Support	Customi-zation
Disc. Man.	X	X	X		X	X	X				X	X
Proc. Man.			X				X	X				
Utilities							X		X	X	X	
Finance	X	X	X		X	X	X	X	X			X
Securities	X	X	X				X	X			X	X
Wholesale	X		X	X	X	X					X	X
Retail								X	X		X	
Insurance					X			X		X	X	
State and Local	X	X	X	X	X							
Health			X				X	X			X	
Comm.				X	X				X	X	X	
Trans.					X		X	X	X			
Media								X		X	X	
Consulting					X		X	X			X	X
Comp. Svcs.	X				X							X
Higher Ed.		X	X		X			X		X		
Schools			X							X		
Fed. Gov.				X		X	X	X				X



Industry Analyses



Industry Analyses

A

Discrete Manufacturing

1. Professional Services—Related Industry Issues

The issues shared with other vertical groups include pressures to speed transaction processing, integration of networks, integration of data bases and applications, shortages of high-level IS personnel, high levels of pressure to reduce costs and/or increase productivity, increased use of electronic information, increasing attention to customer support/service, and high use of customization. In addition to EDI, discrete manufacturing is beginning to experience an impact from the use of electronic information to represent part numbers that can be communicated directly to machines (e.g., Product Description P-DES).

Unique issues in this vertical market that can have an impact on professional services include the increasing level of connectivity between systems and equipment—including robot devices in manufacturing establishments, increased attention to means of monitoring and controlling quality, and continuing attempts to monitor customer problems and purchasing activities. Other areas receiving increased attention include the linking of design engineers with manufacturing engineers and the implementation of flexible manufacturing systems. Market drivers include shortened product life, rapidly changing market demands, and the interest to enter niche markets.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
MRP II and Related	X	X	X		X
Order Entry / Tracking	X	X		X	X
Inventory Management	X	X		X	X
Accounting		X			X
CAD/CAE	X	X	X		X
Plant Maintenance	X	X	X		X
Networks	X				X
Operations				X	

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
Computer Task Group	Business Management	DBMS Ford Motors	1.8E
DEC/Consillium	MRP II	Bendix Oceanics	4.5
DEC/Western Data	Proc and Control Sys.	Harris Space Systems	1.0E
IBM/Global Data	Order Entry System	GE/Drive Systems	1.0
Analysts Intn'l	Design & Develop Mfg. Testing Program	Motorola	Prop.
Andersen Consulting	CALFAB	Lockheed Intn'l	3.0
Andersen Consulting	Advanced Factory Support	Boeing Aerospace	2.7
Brock Control	Telemarketing	AM International	0.2
Computer Task Group	Data Center Consolid	U.S. Steel/POSSCO	25.0
CTG (SSS)	Warehouse Control System	Baxter Healthcare	1.2E
CTG (SSS)	Plant Process Control	Cargill	2.0
DMR	Integrated Graphic & Text Retrieval	Northern Telecom	Prop.
DEC	CIM System	Boeing (Seattle Pt)	50.0
Harnischfeger	Warehouse of the Future	GE, Flight Support	7.5
IBM/Boeing	Contract Status/Sched	Magnavox	1.5
Litton Ind.	Image Processing	Boeing Aircraft	25.0
SHL Systemhouse	Data Center	Genstar Stone	2.7
US West	ISDN	3M NET	30.0E

3. Market Size and Competitive Structure

See Exhibit III-1.

B

Process Manufacturing

1. Professional Services—Related Industry Issues

Issues shared with other verticals include integrating applications and data bases, high levels of pressure to reduce costs, and dealing with mergers and acquisitions.

Unique issues in process manufacturing include activities to optimize plant performance through space, work flow, and maintenance planning and moves to decentralize operations to take advantage of reduced costs or other factors at smaller plants or different geographical locations.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
Process Control	X	X	X	X	X
Order Entry	X	X			X
Customer Service	X	X		X	
Maintenance Scheduling	X	X			
Laboratory Data - Collection/Analysis	X	X	X		X

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
Analysts Intn'l	Sales Quota Compensation System	Eastman Kodak	Prop.
Andersen Consulting	INFO 90	Ashland Chemical	5.5
Andersen Consulting	Systems Operations	Greyhound Dial	5.7E
Codex/McDD	Order Entry	Helene Curtis, Inc	8.0
CSC	Integrated Manufacturing Information Sys (IMIS)	Weirton Steel Corp	5.0
Contel Applied Sys	VSAT Network (110 in 10 States, 2 Masters)	Williams Pipe Line	4.5
Coopers & Lybrand	Manufacturing Info	Scott Paper	Prop.
DH&S	Network	Sonoco Products	1.6
DEC	CIM, Systems Control	Firestone	0.8E
DEC	CIM	Nekoosa Packaging	25.0E
H-P/AT&T/Cardinal	Order Entry System	Millipore Corp.	2.1
H-P/A-B/Rust	Distribution System	General Foods	1.7
Harnischfeger	Automated Storage and Retrieval	Goodyear	10.0
Honeywell Bull	MRP Project	Honeywell	20.0E
IBM	Integration of Wang Systems with IBM	Mobil Oil	250.0
Oil Systems	QUPID	Mead Corp.	6.0

3. Market Size and Competitive Structure

See Exhibit III-2.

C

Communications

1. Professional Services—Related Industry Issues

Issues that are shared with other verticals include shortages of IS personnel (including those with high levels of skills), pressures for cost reduction and/or increased productivity, dealing with mergers and acquisitions, regulatory factors, high levels of reporting to government organizations, and increased attention to customer service/support.

Unique issues in communications that can have an impact on professional services include the interfaces and boundaries between communication company services and the pricing of services.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
Billing	X				
Customer Service	X	X	X		
Card-Based Services	X	X			
Accounting/Financials	X	X			
Planning	X	X	X		
Maint. Scheduling		X			

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
EDS	Telephone Billing System	Contel	5.0
Hewlett-Packard	Workstations	Northern Telecom	12.0

3. Market Size and Competitive Structure

See Exhibit III-3.

D

Computer Services

1. Professional Services—Related Industry Issues

Issues that are shared with other verticals include the need to speed up transaction processing and response time (professional service firms are aiding software and hardware firms to achieve this goal), shortages of higher level IS people, pressures for cost reduction and/or increased productivity, dealing with mergers and acquisitions, increased attention to customer service/support, and continuing needs for customization.

Unique issues in computer services that can have an impact on professional services include the need to constantly provide added-value services to keep clients from migrating to alternate solutions and the requirement to upgrade solutions to perform with new operating systems, other system software releases, and new hardware technology.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
Employee Training	X		X		
Applic. Development	X	X			X
Customer Service	X	X			X
Marketing	X	X			X

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
Hughes Network Sys	VSAT Network	GE, Info. Services	10.0

3. Market Size and Competitive Structure

See Exhibit III-4.

E

Consultants

1. Professional Services—Related Industry Issues

Issues that are shared with other verticals include shortages of higher-level IS people, pressures for cost reduction and/or increased productivity, dealing with mergers and acquisitions, and increased attention to customer service/support.

Unique issues in consulting that can have an impact on professional services include the continuing need to improve office automation and communication services that will facilitate consulting work and an ongoing need to obtain education in advances in IS technology.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
Decision Support	X	X	X		
Project Management	X	X	X		X
Office Info. Systems	X	X	X		X
Desktop Publishing		X	X		

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
Murdoch Elec. Pub	Ultraswitch	Hotel Ind. Switch	8.5
SHL Systemhouse	Office Automation	Aircraft Owners	1.2

3. Market Size and Competitive Structure

See Exhibit III-5.

F

Health

1. Professional Services—Related Industry Issues

Issues shared with other verticals include integrating data bases and applications, pressures for cost reduction and/or increased productivity, merger and consolidation activity, high levels of need for government reporting, and increased attention to customer service/support.

Unique issues in health that can have an impact on professional services are the increasing dependence on software packages and the relationships between health and government or academic organizations that often require new reporting and changes in IS systems. The integrated approach to patient care is becoming a necessity at many large health care facilities where all patient information is held in the central data bases along with diagnostic information to assist the medical staff.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
Integrated, Database-Oriented Hosp. Sys.	X	X	X		X
Billing/Reimbursement	X	X			X
Acct./Fin. Analysis	X	X			
Patient Management	X	X			
Laboratory Automation	X	X	X		X

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
Advanced Graphic	Optical Storage & Retrieval System	Maimonides Medical	0.4
Health Data Science	Medcom	Humana, Inc.	3.0
IBM/META	Patient Admit/Discharge	Cedars-Sinai Medical	3.0
IBM/McDD/MSA	Order Entry	Kendall McGaw	5.4
KDSI	Integrated Health Care System	Henry Ford Hlth Care	1.4
KDSI	Laboratory Project	St. Francis Mem. Hp	0.6
LabForce	Laboratory Info Sys	IHC	0.6E
Sytek	LAN	New York Hospital	0.7

3. Market Size and Competitive Structure

See Exhibit III-6.

G

Higher Education

1. Professional Services—Related Industry Issues

Issues shared with other verticals include needs to integrate networks and applications/data bases, shortages of higher-level IS expertise, and high levels of reporting to government organizations.

Unique issues in higher education that can have an impact on professional services include the need to monitor student loan accounting and repayment, participation in regional network and other IS projects, and interest in improving systems that manage physical assets and development projects.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
Integrated Comm.	X	X	X		X
Accounting/Financials	X	X			
Benefits Admin.	X	X			
Personnel Mgmt.		X			

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
AT&T	Communications Network	Iowa State Univ	14.0
Coopers & Lybrand	Student Info. Sys.	Michigan State Univ	2.5
IBM	Institutional File Sys	Univ of Michigan	30.0
IBM	Campuswide voice/data communications system	Columbia University	13.5
NYNEX	Harvard Univ Network (HUN) (175 buildings)	Harvard University	27.0
SCT	Phase I: Administrative Computing System	Houston Community Co	6.0
SCT	Phase II: Instructional Computer Environment	Houston Community Co	6.5
UCS	Telecommunicatons System	Western Michigan U	8.8

3. Market Size and Competitive Structure

See Exhibit III-7.

H

Media

1. Professional Services—Related Industry Issues

Issues shared with other verticals include pressures for cost reduction and/or increased productivity, dealing with mergers and acquisitions, high levels of reporting to government organizations, increased attention to customer service/support, and an increasing desire to customize services.

Unique issues in media that can have an impact on professional services include the increasing need for sophistication in marketing and list management systems and continuing interest in upgrading telemarketing systems.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
Customer Service/ Billing	X	X		X	
List Management		X		X	
Audience Analysis		X			
Accounting		X			
Marketing	X	X			
Integ. Publishing	X	X			X

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
Computer Horizons	Design & Development of Enterprise Data Model	Time	23.0
IBM	MLB-IBM Baseball Information System	Maj Leag Baseball	Prop.
IBM	Data Center Conversion	GE/NBC	Prop.
Perot Systems	Publishing System	McGraw-Hill, Inc.	42.5
SHL Systemhouse	Automate Newspaper Publishing System	Sacramento Star	1.6

3. Market Size and Competitive Structure

See Exhibit III-8.

I

Schools

1. Professional Services—Related Industry Issues

Issues shared with other verticals include integrating applications and data bases, pressures for cost reduction and increased productivity, and high levels of reporting to government organizations.

A unique issue in schools that can have an impact on professional services is the need or interest to upgrade the technology in use.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
Accounting/Financials	X	X		X	X
Ed. Process Monitoring	X	X	X		
Office Info. Systems		X			
Desktop Publishing		X	X		

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
ATG/Apple	Vivarium Experimental Classroom	The Open School	?
CCA/IBM	"Automate the Schools" Student Recordkeeping	NYC	88.0
Keystone Info.	School Computer Network	Phila City Schools	8.2

3. Market Size and Competitive Structure

See Exhibit III-9.

J

State and Local Government

1. Professional Services—Related Industry Issues

Issues shared with other verticals include pressures to speed up transaction processing, integrating networks, integrating data bases and applications, and shortages of IS personnel, particularly higher level IS personnel.

Unique issues in state & local government that can have an impact on the use of professional services include the upgrading of systems and use of new technology, the reduction of federal funds, and long decision cycles that are involved in many government awards and projects.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
Administration (e.g., Networks, Accounting)	X	X			X
Tax Processing, Rev. Collection, Ass'ment	X	X			X
Public Safety & CAD	X	X	X		X
Social Services (e.g., Benefits, Case Load)	X	X			X
Court & Crim. Justice	X	X			X

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
AT&T	State Telecommunications Network	Wisconsin (State)	226.9E
Andersen Consulting	Cost Recovery System	CA, Dept. of Dev Svs	3.6
Apollo Computer	CADD Project	CA, Trans Agency	80.0
BCS	Supercomputer Network	Alabama (State)	38.7
BCS	Data Comm Network	PA (State)	21.6
BCS	CityNet	New York (City)	31.5
C & P Telephone	Elec Tandem Network	WV (State)	12.0
Cole-Layer-Trumble	Kansas Computer-Assisted Mass Appraisal (KSCAMA)	KS, Dept. of Rev	1.5
CSC	Water/Sewer Monitor Pjt	MA Water Resources	16.0
FDR	Social Services EMEVS Project	NY, Dept. Soc Svcs	22.0

Vendor(s)	Project	Customer	Value ($M)
General Tel	California Integrated Telecomm Network (CALNET)	California (State)	109.0
IBM	Computer-Aided Dispatch System	Baltimore, Police	4.5E
IBM	Uniform Education Reporting System	NC, Board of Ed	2.3
IBM/Datacorp	Auto. Info. Retrieval System (AIRS) (Digitized voice/data schedules)	Port Auth of NY/NJ	1.6
IBM/NCR/DH&S/NCC	Billing System	Portland (OR), Water	3.5
Illinois Bell	Citynet Centrex Network (400 agencies @ 39 locations)	Chicago (City)	32.5
KPMG/EDS	State-wide Acct System	TX, Comptroller	8.8
Keystone Info.	Eligibility System (I)	MT, Dept. of SRS	0.5
McDD	Environmental Control System Support	PA, Dept of Env Res	5.6
NCR Corp.	Crime Lab Network	FL, Dept. of Law Enf	2.0
NCR Corp.	Crime Lab Automated Staff Services (CLASS)	FL, Dept. of Law Enf	1.5
NYNEX/AGS	Toll/Fare Collection Sys	DELMARVA Brdge & Tun	7.2
Network Solutions	Child Supt Computer Sys	RI, Dept Human Svc	1.9
Nixdorf Computer	Auto State liquor Stores	NH, State Liquor	3.5
PSW3	Computer Dispatch System	Austin, TX Pub Safe	1.7
Pacific Bell	ISDN Centrex System	Fresno (City)	2.9
PRC	Computer Dispatch System	Phoenix, Fire Dept	5.0
Price Waterhouse	Systems Upgrade	NY, Dept. of Tax	78.0
SCT	Integrated Court System	Allen County, Comm	6.5E
SHL Systemhouse	Criminal Justice System	LA County, Crim Jst	13.0
SHL Systemhouse	California Educational Financial Aid Processing Systems (CEFAPS)	California, Stud Aid	5.5
SHL Systemhouse	HAWI System	Hawaii, Dept. Social	4.1E
SHL Systemhouse	Auto Lab Inf Sys (LIMS)	Baltimore	60.0
SHL Systemhouse	AZTECS	Arizona, Dept. Econ	44.0
SHL Systemhouse	Office Automation (30 workstations, 52 terms)	Baltimore, Waste	0.3
SHL Systemhouse	Client Eligibility Determination System	Washington, DC	2.3E
SHL Systemhouse	CLASS-Catalog Tracking	Columbus/Franklin Co	2.8E
SHL/Unisys	COSMOS	Washington	30.0
US Sprint/Telenet	Voice/Data Network	Illinois (State)	108.0

3. Market Size and Competitive Structure

See Exhibit III-10.

K

Transportation

1. Professional Services—Related Industry Issues

Issues shared with other verticals include shortages of IS personnel with high levels of skills, pressures for cost reduction and increased productivity, dealing with mergers and acquisitions, regulatory factors, high levels of reporting to government organizations, and increased attention to customer service/support.

Unique issues in transportation that can have an impact on professional services include the need to be able to change services and pricing rapidly to meet the needs of manufacturing customers and travelers, the increasing need to supply or interface to international transportation, and the need for highly specialized programming to upgrade reservation systems.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
Reservation Systems	X	X	X	X	X
Billing/Accounting	X	X			
Card-Related Process		X		X	

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
AMCI	Advanced Train Control System (23,000 track miles)	Union Pacific	150.0
IBM	Corporate SNA Network	United Airlines	63.0
PST	Automated Crew Calling	Illinois Central	0.5
Perception Tech	Flight Scheduling System	Delta Airlines	0.3
Rockwell Int'l	Advanced Railroad Electronic System	Burlington North	300.0

3. Market Size and Competitive Structure

See Exhibit III-11.

L

Utilities

1. Professional Services—Related Industry Issues

Issues shared with other verticals include cost reduction or increased productivity (reflected in the rising interest in automatic meter reading and automated mapping), regulatory factors, various types of required government reporting, and the continuing pressure of customer service/ support.

Unique issues in utilities that can have an impact on professional services include pressures to upgrade plants (and associated systems) to maintain high utilization rates, the need to replace older technology (particularly for nuclear installations), and continuing concern about systems involved with safety at nuclear as well as other facilities.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
Customer Service	X	X	X		X
Automatic Meter Reading	X	X			X
Marketing Information	X	X			
Accounting	X	X			
Geographic Info. System	X	X		X	X

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
Andersen Consulting	Budgeting & Finance Sys	Northeast Utilities	25.0
Andersen Consulting	Materials Management Sys	Florida Power	2.0
CDC (EMS)	Energy Management System	General Public Util	32.0
Control Data Corp.	Energy Management	Omaha Power	5.0

3. Market Size and Competitive Structure

See Exhibit III-12.

M

Distribution

1. Professional Services—Related Industry Issues

Wholesale Distribution

Issues shared with other verticals include pressures to speed up transaction processing, integrating data bases and applications, shortages of IS personnel, pressures for cost reduction and/or increased productivity, increasing use of electronic information (EDI), increased attention to customer service/support, and a continuing need for customization.

Unique issues in wholesale that can have an impact on professional services include the impact of Just-In-Time in manufacturing, the use of new technology (for POS, bar code, material handling and warehouse automation), and additional services/support being added by wholesalers to meet retail needs.

Retail Distribution

Issues that are shared with other verticals include pressures for cost reduction and/or increased productivity, dealing with mergers and acquisitions, and increased attention to customer service/support.

Unique issues in retail distribution that can have an impact on professional services include the increasing use of POS and check authorization, further diversification of products and services to meet customer demands, and new concepts in retail—including shopping at home and electric couponing that require changes to existing systems.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
Distribution (Wholesale)					
Order Entry/Processing	X	X			X
Accounting	X	X			X
Customer Service	X	X			X
Automated Warehouse	X	X	X		X
Distribution (Retail)					
Card Authorization/ Processing		X		X	X
POS & Related	X	X			X
Accounting	X	X			X
Warehouse Automation	X	X			X
Merchandising	X	X	X		X

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
EDS/Customer	Prism 7	K Mart	143.2E
GTE Spacenet	VSAT Network	K Mart	60.0
Hughes	Satellite Network	Southland Corp	7.0
Hughes	Satellite Network	Service Merchandise	8.0
IBM	Network	Agway Stores	14.0
IBM/In-House	Distribution System	Amway	1.8E
IBM/NCR	POS System (400 stores)	Burger King	20.0
Illinois Bell	ISDN	McDonalds Corp.	1.0E
Southwestern Bell	Microwave network	Venture Stores/May	0.7
Systems Unlimited	Dealer Comm. System	Porche Cars of NA	3.5
Tel Plus Comm	Network Upgrade	Burdine's Dept Store	1.0
Volt Telecomm	Remote Store Comm	F.W. Woolworth's	1.5E

3. Market Size and Competitive Structure

See Exhibit III-13.

N

Finance

1. Professional Services—Related Industry Issues

Issues shared with other verticals include pressures to speed up transaction processing, integrating networks, integrating data bases and applications, shortages of higher level IS people, the use of electronic information, pressures for cost reduction and/or increased productivity, dealing with mergers and acquisitions, regulatory factors, increased attention to customer service/support, and continuing need for customization.

Unique issues in finance that can have an impact on professional services include the globalization of financial markets and restructuring of the industry that is taking place as a result of regulatory change and economic performance of sectors of the market. Another unique issue in finance is the interest in avoiding the addition of permanent IS or other personnel.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
Card-Related	X	X		X	X
Correspondence Banking	X	X	X	X	X
Trading & Funds System	X	X			X
Consumer Loan	X	X			X

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
AT&T	Terminal Deployment	Federal Reserve	1.5
AMS	Letters of Credit	Bank of Nebraska	1.0E
Analysts Intn'l	Banknet Communication System Applications	MasterCard Intn'l	Prop.
DMR	Reengineer Retail Banking Sub-System	Chemical Bank	Prop.
EDS	Banking Customer Info. Systems	BankOne	50.0E
Hughes Network Sys	Network Hub Installation (2-way data, 1-way video)	Edward D. Jones	30.0
IBM	Banking Application	Chase Manhatten	25.0E
Marshal & Isley	Integrated Deposit Sys	Moore Financial	8.0
Plexus Computer	Image Processing System	TRW Inc., Fin Sys	7.5E
Systematics	Banking Applications	City National Bank	3.5

3. Market Size and Competitive Structure

See Exhibit III-14.

O

Insurance

1. Professional Services—Related Industry Issues

Issues shared with other verticals include shortages of IS personnel, pressures for cost reduction and increased productivity, above-average need for government reporting, and increased attention to customer service/support.

Unique issues in insurance include the development/support of new products and the need to provide more timely and accurate information to independent and captive agents.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
Claims Processing	X	X		X	X
Accounting & Payment Processing	X	X		X	X
Customer Service	X	X			X
Marketing	X	X	X		X
Agent Systems		X			X
Accounting	X	X			
Risk Analysis	X	X			

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
Andersen Consulting	Accounting Support Sys	Chicago Title	Prop.
Equifax	Direct Billing Project	Royal Ins of Am.	10.0
Plexus Computers	Image Retreival & Information System (IRIS)	Prudential Ins Co.	10.0
Software Altern	Tracking System	American Security	0.8
The Continuum Corp.	Client Contract Admin	Principal Mutual	30.0E
The Continuum Corp.	Client Contract Admin	Equitable Life	40.0

3. Market Size and Competitive Structure

See Exhibit III-15.

P

Securities

1. Professional Services—Related Industry Issues

Issues that are shared with other verticals include pressures to speed up transaction processing, integrating networks, integrating data bases and applications, pressures for cost reduction and/or increased productivity, dealing with mergers and acquisitions, increased attention to customer service/support, and continuing need for customization.

Unique issues in securities that can impact professional services include the development/support of new products, global trading, and the increasing complexity of trading and support functions.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
Clearance & Settlement	X	X		X	
Securities Transfer	X	X		X	
Accounting/Finance	X	X			
Portfolio Management	X	X			

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
Telenet Comm	Switching Network	Federal Reserve	3.5

3. Market Size and Competitive Structure

See Exhibit III-16.

Q

Federal Government

1. Professional Services—Related Industry Issues

Issues that are shared with other verticals include the need to integrate networks, pressures for cost reduction and increased productivity, shortages of IS personnel including those with higher levels of IS knowledge, increasing use of electronic information (EDI and electronic part information in the defense industry (e.g., P-DES), and continuing needs for customization of software packages.

Unique issues in the federal government that can have an impact on professional services include improving the information supplied to executive and legislative offices, changes in contracting for services as reflected in CICA, and continuing interests in achieving software standards.

2. Key Applications and Exemplary Contracts

Application	Consulting	Software Dev.	Educ. & Training	Processing Services	Systems Integ.
Budgets/Accounting	X	X			X
Records Management	X	X	X	X	X
Work Sched., Mgmt.	X	X		X	X
Integrated Logistics	X	X	X	X	X
Office Info. Systems	X	X	X		X

Exemplary Contracts

Vendor(s)	Project	Customer	Value ($M)
AT&T	AFCAC-251	U.S. Air Force	929.1
AMS	Document Image Processing System	VA	3.0
Andersen Consulting	Electronic Data Gathering Analysis and Retrieval (EDGAR)	SEC	8.0
Andersen Consulting	Integrated Financial/Administrative System (IFAS)	SSA	12.0
Andersen Consulting	Logistics & Inventory Systems (LIS)	FAA	7.4
Applitek Corp.	LAN	NASA, Headquarters	1.0
Artecon Inc.	Payment Administration	Department of Labor	8.0
BCS/IBM/Unisys	STARS	U.S. Air Force	225.0
BCS	DoL Network	Department of Labor	9.4

Vendor(s)	Project	Customer	Value ($M)
BCS	Remote Computing Services & Technical Support	IRS	2.0
C3, Inc.	Ruggedized Graphics Workstations	U.S. Navy	115.5
C3, Inc.	Data Exploitation System (DES)	U.S. Air Force	4.9
CDS	Facilities Management	GSA	12.5
CSC/Raytheon	Operation & Maintenance of the Eastern Test Range	U.S. AF, Patrick	350.0
Centel Federal Sys	Technical Assistance & Mgmt. Services (TAMS)	GSA	29.4
CSC	SW Support/Systems Analysis	U.S. Marine Corps	106.0
CSC	O&M of the Pacific Missile Range Facility at Barking Sands, Hawaii	U.S. Navy	84.0
CSC	Software and Services Contract	NASA, Ames Res. Ct	170.0
CSC	Computer SW Services	NASA	170.0
CSC	SW Support Svcs.	FAA	47.0
CSC	National Electronic Accounting & Reporting (NEAR)	GSA	21.5
CSC	Office Automation System	NASA, Kennedy Space	13.5
CSC	AWIPS-90 (Advanced Weather Interactive Processing System)	DoC, NOAA	11.0
Contel Applied Sys	Weather Communications Processing	FAA	11.0
Contel Federal Sys	Southeast Region Administrative Telephone System (SERATS)	U.S. Army	14.0
CDC	Data Processing and Telecomm. System Support and Management Services	DoE	158.0
Coopers & Lybrand	Data Processing, SI, and Compliance Review	GNMA	35.0
EDS/TRW	Unified LAN Architecture (ULANA)	U.S. Air Force	150.0
EDS	Card Production System	INS	6.0
Federal Tech. Corp.	DCAA Integrated Information Sys (DIIS)	DoD, DCA	17.0

Vendor(s)	Project	Customer	Value ($M)
Ford Aerospace	Mission Systems Contract	NASA, Johnson Ct	800.0
GE Aerospace Div.	Systems Engineering and Integration (SE&I)	SDI Org.	235.9
General Dynamics	Strategic Weapons Plan System	U.S. AF, Offutt	165.6
Grumman Data	DMMIS, Phases II and III	U.S. AF Logistics	17.0
Grumman Data	Advanced Tactical Air Control Central (ATACC)	U.S. Marine Corp	23.3
Grumman Data	Engineering Analysis and Data System (EADS)	NASA, Marshall	60.0
Harris Corp.	Weather-message Switch Center	FAA	12.8
Harris Corp.	S/W Support at Gunter AF Base	U.S. Air Force	100.0
Hughes/H-P	Office Automation System (Connectivity support)	U.S. Navy, Puget	10.0
IBM	Technical Support & Installation Services	FAA	344.0
IMS	CDMS - Phase II	U.S. AF, Logistics	93.0
Intergraph/Sci-tech	Automated Graphics Digitizing Sys (AGDS)	DoI, USGS	4.6
Miltope	Command and Control System, Common Hardware Software Program	U.S. Army	33.0
NET Federal, Inc.	Upgrade and Expand T-1 Network	U.S. Postal Service	7.0
NET Federal, Inc.	Digital Backbone Network	U.S. Postal Service	7.0
Network Solutions	Mainframe Installation & Maintenance	NSF	15.0
Paradyne Corp.	Maintenance of Communications System	FAA	11.0
Perception Tech	Voice Systems Equipment	SAA	3.0
Perot Systems	Automation Project	U.S. Postal Service	0.5
PRC	Treasury Enforcement Comm. Sys. (TECS II)	Customs Service	15.0
PRC	ADP & Telecommunications Services	NASA	50.0
PRC	IG Network	U.S. Army, Inspt G	15.0E
PRC	Technical Support of the Naval Weapons Station, Seal Beach, CA	U.S. Navy	50.0
Raytheon	Terminal Doppler Weather Radar (TDWR)	DoT	180.0
Rockwell Intn'l	Automatic Call Dist	SSA	25.7
SAIC	Composite Health Care System (CHCS)	DoD, Off of Sec	1000.0

Vendor(s)	Project	Customer	Value ($M)
Sage/Perot Systems	APS Development Center	Los Alamos Nat Lab	0.3
Sterling Software	Communications Support Processor II (CSP II)	U.S. AF, Intell	47.5
TRW Defense Sys	Oper & Upgrade of MIS	U.S. Air Force	6.2
TRW/ACER	US Naval Academy Auto.	U.S. Navy	15.0
TRW/EDS	ULANA	U.S. Air Force	150.0
Tandem Computers	FAA Network Expansion	FAA	61.0
Telenet Comm	Data Network	FAA	18.7
Tisoft Inc.	AMICUS II	DoJ, Civil Division	40.0
Unisys Corp.	Nat'l Practitioner Data Bank	DHHS	15.9
Unisys Corp.	Advanced Weather Distribution Sys (AWDS)	U.S. Air Force	9.0
Unisys Corp.	UNIX-based Systems	Department of Labor	10.0
Unisys Corp.	Shipboard Non-Tactical Auto Data Processing (SNAP I)	U.S. Navy	36.0
Unisys Corp.	ADP Support Services	DoT	20.0
Vanguard Tech	Facilities Management	Department of Labor	20.0

3. Market Size and Competitive Structure

See Exhibit III-17.

EXHIBIT III-1: 1989 COMPETITIVE MARKET STRUCTURE - DISCRETE MANUFACTURING

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
International Business Machines	38	5%	90	4%	31	8%	2	1%	161	5%
Andersen Consulting	47	6%	96	4%	8	2%	8	5%	159	5%
Computer Task Group	10	1%	72	3%	7	2%	5	3%	94	3%
Electronic Data Systems	24	3%	43	2%	10	3%	10	6%	87	3%
AGS Computers/NYNEX	4	1%	75	3%	3	1%			82	2%
Unisys	6	1%	69	3%	1				76	2%
McDonnell Douglas Systems Integration	15	2%	53	2%	2	1%	2	1%	72	2%
Computer Sciences Corporation	12	2%	42	2%	6	2%	10	6%	70	2%
Price Waterhouse	40	5%	20	1%					60	2%
Fluor	20	3%	36	2%	2	1%			58	2%
Digital Equipment	10	1%	36	2%	5	1%			51	1%
Bechtel Information Technology	6	☑	34	2%	10	3%			50	1%
Boeing Computer Services	5	1%	14	1%	1	*	23	14%	43	1%
Arthur D. Little	20	3%	16	1%	3	1%			39	1%
General Instruments			30	1%	2	1%	6	4%	38	1%
Analysts International	6	1%	15	1%	5	1%	4	☑	30	1%
Computer Horizons	2	*	27	1%	1	*			30	1%
Metier Management			25	1%	1	*			26	1%
AT&T	6	1%	12	1%	7	2%			25	1%
Deere Technical Services	3	*	12	1%	8	2%			23	1%
Allen-Bradley	3	*	8	☑	4	1%			15	*
Prime/Computervision	6	1%			4	☑			10	*
SUBTOTAL	283	38%	825	38%	121	33%	70	44%	1299	38%
OTHER VENDORS	469	62%	1329	62%	244	67%	88	56%	2130	62%
TOTAL MARKET	752	100%	2154	100%	365	100%	157	100%	3428	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATION (PROCESSING) ($M)	(%)
International Business Machines	30	9%	44	11%		☑
Andersen Consulting	123	35%	140	34%		
Computer Task Group	34	10%	35	8%		
Electronic Data Systems	28	8%	35	8%	53	55%
AGS Computers/NYNEX	22	6%	29	7%		
Unisys						
McDonnell Douglas Systems Integration	18	5%	22	5%	9	9%
Computer Sciences Corporation	7	2%	10	2%		
Price Waterhouse						
Fluor						
Digital Equipment	19	5%	29	7%		
Bechtel Information Technology	5	1%	10	2%		
Boeing Computer Services	4	1%	7	2%	10	10%
Arthur D. Little						
General Instruments						
Analysts International						
Computer Horizons						
Metier Management						
AT&T	4	1%	8	2%		
Deere Technical Services	3	1%	6	☑		
Allen-Bradley						
Prime/Computervision						
SUBTOTAL	297	86%	375	91%	72	74%
OTHER VENDORS	50	14%	39	9%	25	26%
TOTAL MARKET	347	100%	414	100%	97	100%

NOTE: ☑ = "RISING STAR"; * = < 1%

EXHIBIT III-2: 1989 COMPETITIVE MARKET STRUCTURE - PROCESS MANUFACTURING

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
International Business Machines	21	5%	72	6%	27	13%	5	6%	125	7%
Andersen Consulting	24	6%	64	5%	21	10%	2	☑	111	6%
KPMG (Peat Marwick)	7	2%	64	5%	3	1%			74	4%
Coopers & Lybrand	7	2%	52	4%					59	3%
Electronic Data Systems	15	4%	27	2%	7	3%	8	9%	57	3%
Deloitte & Touche	7	2%	39	3%					46	2%
Harris	10	2%	22	2%	8	4%			40	2%
Digital Equipment	10	2%	20	2%	6	3%			36	2%
Computer Sciences Corporation	5	1%	12	1%	4	2%	10	11%	31	2%
Boeing Computer Services	6	1%	12	1%	2	1%	3	3%	23	1%
National Education Corporation					22	10%			22	1%
ASK Computer Systems	7	2%	11	1%	4	2%			22	1%
Arthur D. Little	11	3%	9	1%	2	1%			22	1%
Computer Task Group	7	2%	11	1%	3	1%			21	1%
Bechtel Information Technology	3	1%	18	2%					21	1%
Prime/Computervision	7	2%	10	1%	3	1%			20	1%
Hewlett-Packard	7	2%	6	1%	3	1%			16	1%
Keane, Inc.			5	*		☑			5	*
Lockheed	1	*	2	*	1	*			4	*
EI International	1	☑							1	*
Cyborg Systems				☑						
McDonnell Douglas Systems Integration										
SUBTOTAL	156	37%	456	38%	116	54%	28	31%	756	39%
OTHER VENDORS	261	63%	737	62%	98	46%	62	69%	1158	61%
TOTAL MARKET	417	100%	1193	100%	214	100%	90	100%	1914	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATIONS (PROCESSING) ($M)	(%)
International Business Machines	3	4%	5	6%		
Andersen Consulting	26	38%	30	34%	10	3%
KPMG (Peat Marwick)	3	4%	5	6%		
Coopers & Lybrand	3	4%	5	6%		
Electronic Data Systems					54	14%
Deloitte & Touche						
Harris						
Digital Equipment	4	6%	6	7%		
Computer Sciences Corporation						
Boeing Computer Services	6	9%	10	11%	20	5%
National Education Corporation						
ASK Computer Systems						
Arthur D. Little						
Computer Task Group	4	6%	5	6%		
Bechtel Information Technology	2	3%	5	6%		
Prime/Computervision						
Hewlett-Packard	3	4%	6	7%		
Keane, Inc.						
Lockheed	2	☑	2	☑		
EI International						
Cyborg Systems						
McDonnell Douglas Systems Integration					10	☑
SUBTOTAL	56	82%	79	90%	94	25%
OTHER VENDORS	12	18%	9	10%	280	75%
TOTAL MARKET	68	100%	88	100%	374	100%

NOTE: ☑ = "RISING STAR"; * = < 1%

EXHIBIT III-3: 1989 COMPETITIVE MARKET STRUCTURE - COMMUNICATIONS

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
Digital Equipment	10	7%	22	5%	3	4%			35	5%
Computer Sciences Corporation	11	7%	17	4%	6	8%			34	5%
Unisys	8	5%	21	5%	3	4%	1	☑	33	5%
Cincinnati Bell Information Services	6	4%	18	4%	7	10%			31	5%
AGS Computers/NYNEX	6	4%	21	5%	2	3%			29	4%
GTE	4	3%	7	2%	1	1%	10	33%	22	3%
Andersen Consulting	8	5%	8	2%	3	4%			19	3%
International Business Machines	2	1%	11	3%	6	8%			19	3%
McDonnell Douglas Systems Integration	1	1%	10	2%	2	3%	5	17%	18	3%
Computer Horizons	1	1%	15	4%	1	1%			17	3%
Electronic Data Systems	2	1%	9	2%	3	4%	3	10%	17	3%
American Management Systems	2	1%	7	2%	1	1%	5	17%	15	2%
Computer Task Group			14	3%					14	2%
Cap Gemini America	1	1%	10	2%	2	3%			13	2%
National Education Corporation					8	11%			8	1%
Tandem Computers	1	1%	6	1%	1	1%			8	1%
Analysts International	1	1%	5	1%	1	1%			7	1%
Computer Power Group Americas			6	1%					6	1%
Coopers & Lybrand	1	1%	4	1%	1	1%			6	1%
DMR	1	1%	4	☑	1	1%			6	1%
Logica/Data Architects	1	1%	2	*	1	☑			4	1%
MARC, Inc.	2	☑							2	*
SUBTOTAL	69	46%	217	51%	53	75%	24	80%	363	54%
OTHER VENDORS	80	54%	210	49%	18	25%	6	20%	314	46%
TOTAL MARKET	149	100%	427	100%	71	100%	30	100%	677	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATION (PROCESSING) ($M)	(%)
Digital Equipment	4	6%	8	10%		
Computer Sciences Corporation						
Unisys	6	8%	10	13%		
Cincinnati Bell Information Services				☑		
AGS Computers/NYNEX	3	4%	4	5%		
GTE	5	7%	6	8%		
Andersen Consulting	13	18%	15	19%		
International Business Machines	4	6%	6	8%		
McDonnell Douglas Systems Integration	2	3%	3	4%	8	23%
Computer Horizons	2	3%	2	3%		
Electronic Data Systems	6	8%	8	10%	10	29%
American Management Systems	3	4%	4	5%		
Computer Task Group						
Cap Gemini America	2	3%	2	3%		
National Education Corporation						
Tandem Computers	3	4%	3	4%		
Analysts International						
Computer Power Group Americas						
Coopers & Lybrand				☑		
DMR	2	3%	2	3%		
Logica/Data Architects						
MARC, Inc.						
SUBTOTAL	55	77%	73	91%	18	51%
OTHER VENDORS	16	23%	7	9%	17	49%
TOTAL MARKET	71	100%	80	100%	35	100%

NOTE: ☑ = "RISING STAR"; * = < 1%

EXHIBIT III-4: 1989 COMPETITIVE MARKET STRUCTURE - COMPUTER SERVICES

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
Computer Sciences Corporation	1	10%	3	11%	1.0	20%	1	50%	6	14%
McDonnell Douglas Systems Integration			3	11%	0.5	10%	1	50%	5	10%
Computer Task Group			4	15%	0.4	8%			4	10%
Logica/Data Architects	1	10%	2	7%	1.0	20%			4	9%
Cap Gemini America			3	11%	0.3	6%			3	8%
International Business Machines	3	30%							3	7%
American Management Systems			2	7%		☑			2	5%
Andersen Consulting			1	4%	0.2	4%			1	3%
Cyborg Systems			1	4%					1	2%
Unisys	1	10%							1	2%
Automated Data Processing										
Cincinnati Bell Information Services										
Coopers & Lybrand										
Covia										
Digital Equipment						☑				
Genelco										
Litton Computer Services										
Martin Marietta Info. Systems										
McGraw-Hill, Inc.						☑				
Oracle Complex Systems		☑								
SUBTOTAL	6	60%	19	70%	3.4	68%	2	100%	30.4	69%
OTHER VENDORS	4	40%	8	30%	1.6	32%	0	0%	13.6	31%
TOTAL MARKET	10	100%	27	100%	5	100%	2	100%	44	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATIONS (PROCESSING) ($M)	(%)
Computer Sciences Corporation						
McDonnell Douglas Systems Integration						
Computer Task Group						
Logica/Data Architects	0.50	8%	1.00	☑		
Cap Gemini America	0.70	12%	1.00	13%		
International Business Machines						
American Management Systems	0.30	5%	1.00	13%		
Andersen Consulting						
Cyborg Systems						
Unisys	0.30	5%	1.00	13%		
Automated Data Processing					3.00	60%
Cincinnati Bell Information Services					1.00	20%
Coopers & Lybrand						
Covia					0.50	10%
Digital Equipment						
Genelco						☑
Litton Computer Services						☑
Martin Marietta Info. Systems				☑		
McGraw-Hill, Inc.						
Oracle Complex Systems						
SUBTOTAL	1.8	30%	4	50%	4.5	90%
OTHER VENDORS	4.2	70%	4	50%	0.5	10%
TOTAL MARKET	6	100%	8	100%	5	100%

NOTE: ☑ = "RISING STAR"

EXHIBIT III-5: 1989 COMPETITIVE MARKET STRUCTURE - CONSULTANTS

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
Computer Task Group	0.1	5%	1.0	25%					1.1	16%
Cap Gemini America	0.1	6%	0.5	13%					0.6	9%
Cincinnati Bell Information Services	0.1	5%	0.3	8%	0.1	10%			0.5	7%
Computer Sciences Corporation			0.2	5%	0.3	30%		☑	0.5	7%
McDonnell Douglas Systems Integration	0.1	5%	0.4	10%				☑	0.5	7%
MARC, Inc.	0.3	15%							0.3	4%
American Management Systems	0.1	5%	0.1	3%				☑	0.2	3%
Control Data Corporation				☑	0.2	20%			0.2	3%
Andersen Consulting	0.1	5%							0.1	1%
AT&T						☑				
Apple Computer						☑				
Digital Equipment				☑		☑				
International Business Machines		☑								
SUBTOTAL	0.9	46%	2.5	63%	0.6	60%			4.0	57%
OTHER VENDORS	1.1	55%	1.5	38%	0.4	40%			3.0	43%
TOTAL MARKET	2	100%	4	100%	1	100%	0		7.0	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATION (PROCESSING) ($M)	(%)
Computer Task Group						
Cap Gemini America						
Cincinnati Bell Information Services						
Computer Sciences Corporation						
McDonnell Douglas Systems Integration						
MARC, Inc.						
American Management Systems	0.50	50%	0.50	50%		
Control Data Corporation						
Andersen Consulting						
AT&T						
Apple Computer						
Digital Equipment						
International Business Machines						
SUBTOTAL	0.5	50%	0.5	50%		
OTHER VENDORS	0.5	50%	0.5	50%		
TOTAL MARKET	1.0	100%	1.0	100%	0	

NOTE: ☑ = "RISING STAR"

EXHIBIT III-6: 1989 COMPETITIVE MARKET STRUCTURE - HEALTH

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
Andersen Consulting	11	9%	26	7%	12	22%			49	9%
McDonnell Douglas Systems Integration	6	5%	18	5%	6	11%			30	5%
HBO & Company	4	3%	12	3%	2	4%	9	39%	27	5%
Computer Sciences Corporation	5	4%	10	3%	3	5%	7	30%	25	4%
Keane, Inc.	4	3%	10	3%	2	4%	1	4%	17	3%
Shared Medical Systems	3	2%	9	2%	1	2%	4	17%	17	3%
Deloitte & Touche	6	5%	10	3%					16	3%
International Business Machines	4	3%	8	2%	4	7%			16	3%
Arthur D. Little	9	7%	6	2%					15	3%
Price Waterhouse	5	4%	8	2%	2	4%			15	3%
Baxter-Travenol Laboratories	2	2%	10	3%	1	2%			13	2%
Electronic Data Systems	2	2%	8	2%	3	5%			13	2%
Digital Equipment	2	2%	8	2%	2	4%			12	2%
Meditech	3	☑	8	2%					11	2%
Wang Laboratories	3	2%	8	2%					11	2%
Cap Gemini America			10	3%					10	2%
National Education Corporation					10	18%			10	2%
Compucare	1	1%	8	2%				*	9	2%
Cycare Systems	1	1%	7	2%	1	2%			9	2%
John Hancock Health Plans			8	2%				*	8	1%
Pentamation	3	2%	5	☑				☑	8	1%
Texas Instruments	1	1%	5	1%	1	☑			7	1%
SUBTOTAL	75	60%	202	56%	50	91%	21	91%	348	61%
OTHER VENDORS	51	40%	161	44%	5	9%	2	9%	219	39%
TOTAL MARKET	126	100%	363	100%	55	100%	23	100%	567	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATION (PROCESSING) ($M)	(%)
Andersen Consulting	20	18%	33	23%	5	1%
McDonnell Douglas Systems Integration	4	4%	15	11%		
HBO & Company						
Computer Sciences Corporation					26	4%
Keane, Inc.						
Shared Medical Systems					124	19%
Deloitte & Touche	2	2%	5	4%		
International Business Machines	1	1%	5	4%		
Arthur D. Little						
Price Waterhouse						
Baxter-Travenol Laboratories						
Electronic Data Systems						
Digital Equipment	1	1%	2	1%		
Meditech						
Wang Laboratories						
Cap Gemini America						
National Education Corporation						
Compucare						
Cycare Systems					21	3%
John Hancock Health Plans					2	☑
Pentamation						
Texas Instruments	2	2%	5	4%		
SUBTOTAL	30	28%	65	46%	178	28%
OTHER VENDORS	79	72%	77	54%	464	72%
TOTAL MARKET	109	100%	142	100%	642	100%

NOTE: ☑ = "RISING STAR"; * = < 1%

EXHIBIT III-7: 1989 COMPETITIVE MARKET STRUCTURE - HIGHER EDUCATION

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEM OPERATIONS (SERVICES ($M)	SYSTEM OPERATIONS (SERVICES (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
Digital Equipment	3	15%	5	9%	1.0	13%			9	11%
International Business Machines	4	20%	2	4%	1.0	13%			7	8%
Systems & Computer Technology	2	10%		☑	0.4	5%	3	100	5	6%
Cap Gemini America			4	8%	0.3	4%			4	5%
Control Data Corporation			3	6%	0.5	6%			4	5%
American Management Systems		☑	3	6%	0.2	3%		☑	3	4%
Andersen Consulting			1	2%					1	1%
Prime/Computervision			1	2%					1	1%
Computer Data Systems, Inc.			1	1%				☑	1	1%
AT&T										
Electronic Data Systems										
Goal Systems						☑				
McGraw-Hill, Inc.										
National Education Corporation										
SUBTOTAL	9	45%	20	37%	3.4	43%	3	100	35	42%
OTHER VENDORS	11	55%	33	63%	4.6	58%	0	0%	49	58%
TOTAL MARKET	20	100%	53	100%	8	100%	3	100	84	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATION (PROCESSING) ($M)	(%)
Digital Equipment	2	7%	5	14%		
International Business Machines	1	3%	3	8%		
Systems & Computer Technology					6	11%
Cap Gemini America	1	2%	1	3%		
Control Data Corporation	1	3%	3	8%		
American Management Systems	1	3%	3	8%	5	9%
Andersen Consulting		☑		☑		
Prime/Computervision						
Computer Data Systems, Inc.					2	4%
AT&T						☑
Electronic Data Systems					8	15%
Goal Systems						
McGraw-Hill, Inc.						
National Education Corporation						
SUBTOTAL	6	19%	15	41%	21	38%
OTHER VENDORS	24	81%	22	59%	34	62%
TOTAL MARKET	30	100%	37	100%	55	100%

NOTE: ☑ = "RISING STAR"

EXHIBIT III-8: 1989 COMPETITIVE MARKET STRUCTURE - MEDIA

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
International Business Machines	11	7%	19	4%	8	11%			38	5%
MARC, Inc.	23	15%							23	3%
Computer Task Group	2	1%	16	4%	2	3%			20	3%
Ernst & Young	7	4%	12	3%			1	3%	20	3%
Andersen Consulting	3	2%	8	2%	7	9%	1	☑	19	3%
Control Data Corporation			9	2%	4	5%			13	2%
Cap Gemini America	1	1%	7	2%	2	3%	2	6%	12	2%
National Education Corporation					12	16%			12	2%
Cincinnati Bell Information Services		☑	4	1%	3	4%	4	12%	11	2%
McDonnell Douglas Systems Integration	1	1%	8	2%	1	1%			10	1%
Ameritech	1	1%	5	1%	1	1%			7	1%
Perot Systems	1	1%	3	1%			2	6%	6	1%
Compugraphic	1	1%	4	1%				☑	5	1%
Coopers & Lybrand	1	1%	3	1%	1	1%			5	1%
Texas Instruments	1	1%	3	1%	1	1%			5	1%
DMR	1	1%	2	☑	1	1%			4	1%
Deloitte & Touche	1	1%	3	1%					4	1%
XEROX Computer Services	1	1%	2	*	1	☑			4	1%
Sterling Software			2	*					2	*
Boeing Computer Services										
Electronic Data Systems										
Litton Computer Services										
SUBTOTAL	56	35%	110	24%	44	58%	10	30%	220	31%
OTHER VENDORS	102	65%	342	76%	32	42%	23	70%	499	69%
TOTAL MARKET	158	100%	452	100%	76	100%	33	100%	719	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATION (PROCESSING) ($M)	(%)
International Business Machines	5	7%	8	9%		
MARC, Inc.						
Computer Task Group		☑		☑		
Ernst & Young	6	8%	10	11%		
Andersen Consulting	16	21%	18	20%	1	4%
Control Data Corporation	4	5%	6	7%		
Cap Gemini America	1	1%	1	1%		
National Education Corporation						
Cincinnati Bell Information Services						
McDonnell Douglas Systems Integration	4	5%	7	8%		
Ameritech	3	4%	5	6%		
Perot Systems						
Compugraphic						
Coopers & Lybrand	3	4%	5	6%		
Texas Instruments	1	1%	2	2%		
DMR						☑
Deloitte & Touche	2	2%	2	2%		
XEROX Computer Services	2	2%	2	2%		
Sterling Software						
Boeing Computer Services					1	4%
Electronic Data Systems					5	19%
Litton Computer Services					2	7%
SUBTOTAL	45.7	61%	66	75%	9	33%
OTHER VENDORS	29.3	39%	22	25%	18	67%
TOTAL MARKET	75	100%	88	100%	27	100%

NOTE: ☑ = "RISING STAR"; * = < 1%

EXHIBIT III-9: 1989 COMPETITIVE MARKET STRUCTURE - SCHOOLS

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
Digital Equipment	0.4	6%	2.0	11%					2.4	8%
Science Management Corp.	0.5	7%	1.0	6%	0.3	10%	0.3	30%	2.1	7%
Cap Gemini America			2.0	11%					2.0	7%
International Business Machines	1.0	14%	1.0	6%					2.0	7%
American Management Systems			1.0	6%			0.6	60%	1.6	6%
Pentamation	1.0	14%	0.5	☑				☑	1.5	5%
Control Data Corporation			0.6	3%	0.5	17%			1.1	4%
Computer Curriculum Corporation					0.4	13%			0.4	1%
Systems & Computer Technology			0.4	2%					0.4	1%
Goal Systems					0.1	3%			0.1	*
National Education Corporation					0.1	3%			0.1	*
Automated Data Processing										
Boeing Computer Services										
Litton Computer Services										
McGraw-Hill, Inc.						☑				
On-Line Computer Library Center		☑								
SUBTOTAL	2.9	41%	8.5	47%	1.4	47%	0.9	90%	13.7	47%
OTHER VENDORS	4.1	59%	9.5	53%	1.6	53%	0.1	10%	15.3	53%
TOTAL MARKET	7	100%	18	100%	3	100%	1	100%	29.0	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATION (PROCESSING) ($M)	(%)
Digital Equipment	0.8	9%	2.0	17%		
Science Management Corp.						
Cap Gemini America	0.4	☑	0.5	☑		
International Business Machines	0.4	4%	1.0	8%	1.0	6%
American Management Systems	0.3	3%	1.0	8%	1.0	6%
Pentamation						
Control Data Corporation	0.2	2%	1.0	8%		
Computer Curriculum Corporation						
Systems & Computer Technology						
Goal Systems						
National Education Corporation						
Automated Data Processing					1.0	6%
Boeing Computer Services					1.0	6%
Litton Computer Services					1.0	6%
McGraw-Hill, Inc.						
On-Line Computer Library Center						
SUBTOTAL	2.1	23%	5.5	46%	5.0	31%
OTHER VENDORS	6.9	77%	6.5	54%	11	69%
TOTAL MARKET	9	100%	12	100%	16	100%

NOTE: ☑ = "RISING STAR"; * = < 1%

EXHIBIT III-10: 1989 COMPETITIVE MARKET STRUCTURE - STATE & LOCAL GOVERNMENT

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
Unisys	13	2%	45	3%	15	6%			73	3%
Computer Sciences Corporation	13	2%	24	2%	9	3%	24	21%	70	3%
OAO Corp.			63	4%					63	3%
Andersen Consulting	16	3%	30	2%	15	6%	1	*	62	3%
Electronic Data Systems	8	2%	13	1%	11	4%	18	16%	50	2%
Boeing Computer Services	6	1%	10	1%	6	2%	18	16%	40	2%
Grumman Data Systems	3	1%	26	2%	2	1%	8	7%	39	2%
SHL Systemhouse	5	1%	33	2%					38	2%
Digital Equipment	6	1%	24	2%	6	2%			36	1%
AGS Computers/NYNEX	2	*	31	2%	1	*			34	1%
Ernst & Young	5	1%	22	1%	7	3%			34	1%
KPMG (Peat Marwick)	4	1%	25	2%	1	*			30	1%
AT&T	4	1%	24	2%	1	*			29	1%
Arthur D. Little	12	2%	16	1%	*	*			28	1%
Systems & Computer Technology	3	1%	6	*	1	*	18	16%	28	1%
International Business Machines	9	2%	7	*	9	3%	1	1%	26	1%
Deloitte & Touche	5	1%	16	1%					21	1%
Price Waterhouse	2	*	14	1%	1	*			17	1%
American Management Systems	2	*	8	1%	1	*	5	☑	16	1%
Planning Research Corporation/ATI	4	1%	9	1%	2	1%		*	15	1%
Cap Gemini America			10	☑	1	*			11	*
TRW, Inc.										
SUBTOTAL	122	23%	456	30%	89	34%	93	83%	760	32%
OTHER VENDORS	410	77%	1051	70%	169	66%	19	17%	1649	68%
TOTAL MARKET	532	100%	1507	100%	258	100%	112	100%	2409	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATION (PROCESSING) ($M)	(%)
Unisys	15	7%	25	9%		
Computer Sciences Corporation	13	6%	20	7%	35	6%
OAO Corp.						
Andersen Consulting	41	18%	45	16%		
Electronic Data Systems	38	17%	50	17%	66	11%
Boeing Computer Services	18	8%	30	10%	6	1%
Grumman Data Systems	2	1%	3	1%		
SHL Systemhouse	7	3%	10	3%		
Digital Equipment	6	3%	10	3%		
AGS Computers/NYNEX	3	1%	5	2%		
Ernst & Young	6	3%	10	3%		
KPMG (Peat Marwick)	13	6%	20	7%		
AT&T	3	1%	5	2%		
Arthur D. Little						
Systems & Computer Technology						
International Business Machines	3	1%	6	2%	*	☑
Deloitte & Touche	2	1%	3	1%		
Price Waterhouse	1	*	2	1%		
American Management Systems	2	1%	4	1%	8	1%
Planning Research Corporation/ATI	9	4%	15	5%		*
Cap Gemini America	1	*	1	*		
TRW, Inc.					10	2%
SUBTOTAL	183	82%	264	92%	125	20%
OTHER VENDORS	41	18%	24	8%	486	80%
TOTAL MARKET	224	100%	288	100%	611	100%

NOTE: ☑ = "RISING STAR"; * = < 1

EXHIBIT III-11: 1989 COMPETITIVE MARKET STRUCTURE - TRANSPORTATION

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
Andersen Consulting	8	15%	14	10%	4	20%	3	33%	29	13%
Unisys	3	6%	17	12%			2	22%	22	10%
International Business Machines	3	6%	8	6%	2	12%			13	6%
Arthur D. Little	5	9%	7	5%					12	5%
McDonnell Douglas Systems Integration	3	6%	8	6%	1	5%			12	5%
Analytical Sciences Corp. (The)		☑	6	4%	3	15%			9	4%
Control Data Corporation	1	2%	6	4%	1	5%			8	4%
Texas Instruments	2	4%	5	4%	1	5%			8	4%
Computer Power Group Americas		☑	6	4%		☑			6	3%
Lockheed	1	2%	4	3%	1	5%			6	3%
Computer Horizons	1	2%	4	3%					5	2%
Intermetrics		☑	5	4%					5	2%
Ernst & Young	1	2%	2	☑	1	5%			4	2%
Boeing Computer Services							3	33%	3	1%
Logica/Data Architects	1	2%	2	1%		☑			3	1%
National Education Corporation					3	15%			3	1%
Analysts International	1	2%	1	1%					2	1%
Goal Systems					1	5%			1	*
Covia										
GTE										
SUBTOTAL	30	57%	95	67%	18	92%	8	89%	151	68%
OTHER VENDORS	23	43%	46	33%	2	8%	1	11%	72	32%
TOTAL MARKET	53	100%	141	100%	20	100%	9	100%	223	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATION (PROCESSING) ($M)	(%)
Andersen Consulting	24	40%	26	38%	2	5%
Unisys	3	5%	5	7%		
International Business Machines	4	7%	7	10%		
Arthur D. Little						
McDonnell Douglas Systems Integration	6	10%	10	14%		
Analytical Sciences Corp. (The)						
Control Data Corporation	5	8%	8	12%	9	23%
Texas Instruments	2	3%	3	4%		
Computer Power Group Americas	1	1%	1	1%		
Lockheed		☑		☑		
Computer Horizons						
Intermetrics						
Ernst & Young		☑		☑		
Boeing Computer Services						☑
Logica/Data Architects						
National Education Corporation						
Analysts International						
Goal Systems						
Covia					10	26%
GTE					3	8%
SUBTOTAL	45	75%	60	87%	24	62%
OTHER VENDORS	15	26%	9	13%	15	38%
TOTAL MARKET	60	100%	69	100%	39	100%

NOTE: ☑ = "RISING STAR"; * = < 1%

EXHIBIT III-12: 1989 COMPETITIVE MARKET STRUCTURE - UTILITIES

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
Andersen Consulting	18	15%	28	8%	10	20%			56	11%
Control Data Corporation	4	3%	33	10%	4	8%			41	8%
Digital Equipment	3	3%	34	10%	2	4%			39	7%
International Business Machines	11	9%	12	4%	6	12%	2	10%	31	6%
Arthur D. Little	13	11%	10	3%	4	8%			27	5%
Combustion Engineering	1	1%	12	4%	4	8%			17	3%
Planning Research Corporation/ATI	5	4%	10	3%	2	4%			17	3%
Electronic Data Systems	2	2%	5	1%	3	6%	4	19%	14	3%
KPMG (Peat Marwick)	3	3%	9	3%	1	2%			13	2%
McDonnell Douglas Systems Integration	1	1%	6	2%		☑	5	24%	12	2%
Harris	2	2%	8	2%	1	2%			11	2%
Computer Sciences Corporation	2	2%	6	2%	1	2%			9	2%
Coopers & Lybrand			8	2%	1	2%			9	2%
Price Waterhouse		☑	8	2%					8	2%
Boeing Computer Services	1	1%	3	1%	1	2%	1	5%	6	1%
Babcock & Wilcox			5	1%					5	1%
Bechtel Information Technology	2	2%	3	1%					5	1%
Cap Gemini America			5	1%					5	1%
Computer Power Group Americas			4	1%	1	2%			5	1%
Computer Task Group	2	2%	3	1%					5	1%
EI International			4	1%					4	1%
Global Info. Systems Technology								☑		
SUBTOTAL	70	60%	216	64%	41	80%	12	57%	339	64%
OTHER VENDORS	47	40%	124	36%	10	20%	9	43%	190	36%
TOTAL MARKET	117	100%	340	100%	51	100%	21	100%	529	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATION (PROCESSING) ($M)	(%)
Andersen Consulting	21	19%	23	19%		
Control Data Corporation	18	17%	25	20%		
Digital Equipment	12	11%	16	13%		
International Business Machines	5	5%	7	6%		
Arthur D. Little						
Combustion Engineering						
Planning Research Corporation/ATI	10	9%	12	10%		
Electronic Data Systems	6	6%	8	7%	5	16%
KPMG (Peat Marwick)	☑		☑			
McDonnell Douglas Systems Integration	2	2%	3	2%	4	13%
Harris	4	4%	5	4%		
Computer Sciences Corporation						
Coopers & Lybrand	2	2%	3	2%		
Price Waterhouse	1	1%	1	1%		
Boeing Computer Services	4	4%	5	4%	2	6%
Babcock & Wilcox						
Bechtel Information Technology	1	1%	2	2%		
Cap Gemini America						
Computer Power Group Americas	☑		1	☑		
Computer Task Group						
EI International						
Global Info. Systems Technology						
SUBTOTAL	85.7	79%	111	91%	11	34%
OTHER VENDORS	22.3	21%	11	9%	21	66%
TOTAL MARKET	108	100%	122	100%	32	100%

NOTE: ☑ = "RISING STAR"

EXHIBIT III-13: 1989 COMPETITIVE MARKET STRUCTURE - DISTRIBUTION (WHOLESALE & RETAIL)

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
Andersen Consulting	10	3%	42	5%	8	6%			60	5%
Computer Sciences Corporation	14	5%	24	3%	10	8%	9	16%	57	4%
Electronic Data Systems	10	3%	28	3%	6	5%	4	7%	48	4%
Unisys	9	3%	15	2%	8	6%			32	2%
DMR	4	1%	20	2%	4	3%			28	2%
International Business Machines	7	2%	9	1%	7	5%	2	☑	25	2%
Deloitte & Touche	1	*	14	2%	4	3%			19	1%
Control Data Corporation	2	1%	13	2%	3	2%			18	1%
AT&T	7	2%	6	1%	4	3%			17	1%
Arthur D. Little	10	3%	5	1%	2	2%			17	1%
SHL Systemhouse	4	1%	12	1%					16	1%
Litton Computer Services	2	1%	9	1%	2	2%			13	1%
American Software	6	2%	6	1%					12	1%
NCR	2	1%	8	1%	1	1%			11	1%
Triad					11	9%			11	1%
Analytical Sciences Corp. (The)	1	*	6	1%	1	1%			8	1%
KPMG (Peat Marwick)	1	*	5	1%					6	*
CACI, Inc.	1	*	3	☑	1	1%			5	*
Effective Management	2	1%							2	*
Systems & Computer Technology		☑				☑	2	4%	2	*
McDonnell Douglas Systems Integration										
VISA USA										
SUBTOTAL	93	32%	225	28%	72	56%	17	31%	407	32%
OTHER VENDORS	198	68%	590	72%	56	44%	38	69%	882	68%
TOTAL MARKET	291	100%	815	100%	128	100%	55	100%	1289	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATION (PROCESSING) ($M)	(%)
Andersen Consulting	40	18%	45	17%		
Computer Sciences Corporation					6	6%
Electronic Data Systems	6	3%	10	4%	39	36%
Unisys	14	6%	24	9%		
DMR	4	2%	7	3%		
International Business Machines	6	3%	12	4%		
Deloitte & Touche	6	3%	9	3%		
Control Data Corporation	5	2%	8	3%		
AT&T	5	2%	8	3%		
Arthur D. Little						
SHL Systemhouse	3	1%	5	2%		
Litton Computer Services	8	4%	12	4%	5	5%
American Software						
NCR	1	*	3	1%		
Triad						
Analytical Sciences Corp. (The)						
KPMG (Peat Marwick)	3	1%	5	2%		
CACI, Inc.	0.5	*	1	*		
Effective Management						
Systems & Computer Technology						
McDonnell Douglas Systems Integration					8	7%
VISA USA					5	☑
SUBTOTAL	101.5	45%	149	55%	63	58%
OTHER VENDORS	123.5	55%	120	45%	45	42%
TOTAL MARKET	225	100%	269	100%	108	100%

NOTE: ☑ = "RISING STAR"; * = < 1%

EXHIBIT III-14: 1989 COMPETITIVE MARKET STRUCTURE - FINANCE

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
Andersen Consulting	18	4%	52	4%	12	5%	2	2%	84	4%
AGS Computers/NYNEX	2	*	73	6%	2	1%			77	4%
TRW, Inc.	14	3%	44	3%	8	4%	4	4%	70	3%
Electronic Data Systems	8	2%	16	1%	6	3%	21	22%	51	3%
SEI Corporation	6	1%	37	3%	1	*			44	2%
International Business Machines	13	3%	17	1%	9	4%	2	2%	41	2%
Unisys	5	1%	17	1%	15	7%			37	2%
Cap Gemini America	2	*	30	2%	4	2%			36	2%
Computer Sciences Corporation	5	1%	14	1%	5	2%	10	11%	34	2%
AT&T	6	1%	22	2%	2	1%			30	1%
Digital Equipment	4	1%	20	2%	5	2%			29	1%
Price Waterhouse	10	2%	9	☑	5	2%			24	1%
American Management Systems	2	*	17	1%	2	1%		☑	21	1%
DMR	3	☑	13	1%	3	1%			19	1%
Citicorp Information Resources							2	2%	2	*
Automated Data Processing										
National Data Corporation										
Securities Industry Automation										
Total Systems Services										
Mellon Bank										
Systematics										
DST Systems										
SUBTOTAL	98	22%	381	30%	79	36%	41	43%	599	29%
OTHER VENDORS	357	78%	883	70%	143	64%	54	57%	1437	71%
TOTAL MARKET	455	100%	1264	100%	222	100%	95	100%	2036	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATION (PROCESSING) ($M)	(%)
Andersen Consulting	41	29%	45	26%		
AGS Computers/NYNEX	9	6%	12	7%		
TRW, Inc.	9	6%	15	9%	10	1%
Electronic Data Systems	6	4%	10	6%	107	9%
SEI Corporation					43	4%
International Business Machines	5	4%	8	5%		
Unisys	12	9%	20	12%		
Cap Gemini America	2	☑	2	☑		
Computer Sciences Corporation	*	*	*	*	15	☑
AT&T	3	2%	5	3%		
Digital Equipment	8	6%	13	8%		
Price Waterhouse	2	1%	2	1%		
American Management Systems	3	2%	5	3%		
DMR					85	7%
Citicorp Information Resources					130	11%
Automated Data Processing					38	3%
National Data Corporation					70	6%
Securities Industry Automation					20	2%
Total Systems Services					40	3%
Mellon Bank					157	13%
Systematics					65	6%
DST Systems						
SUBTOTAL	99.7	71%	137	80%	780	67%
OTHER VENDORS	40.3	29%	34	20%	388	33%
TOTAL MARKET	140	100%	171	100%	1168	100%

NOTE: ☑ = "RISING STAR"; * = < 1

EXHIBIT III-15: 1989 COMPETITIVE MARKET STRUCTURE - INSURANCE

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
International Business Machines	17	5%	42	5%	12	7%	2	3%	73	5%
Electronic Data Systems	14	4%	28	3%	8	5%	8	12%	58	4%
Policy Management Systems	17	5%	41	5%					58	4%
Andersen Consulting	10	3%	23	3%	13	8%	1	☑	47	3%
Computer Sciences Corporation	7	2%	17	2%	6	4%	14	21%	44	3%
Arthur D. Little	15	4%	10	1%	3	2%			28	2%
Continuum Company (The)							27	40%	27	2%
McDonnell Douglas Systems Integration	3	1%	12	1%	2	☑	10	15%	27	2%
Cap Gemini America	1	*	23	3%	2	1%			26	2%
Deloitte & Touche	8	2%	12	1%					20	1%
DMR	2	1%	12	1%	3	2%			17	1%
CAPSO PALLM Systems	3	1%	12	1%					15	1%
Control Data Corporation			11	1%	4	2%			15	1%
National Education Corporation					15	9%			15	1%
Wang Laboratories	6	2%	8	1%					14	1%
AGS Computers/NYNEX			12	1%					12	1%
Keane, Inc.	1	*	8	1%	2	1%	1	1%	12	1%
Computer Task Group			10	1%					10	1%
Oracle Complex Systems	1	*	5	1%	2	1%	1	1%	9	1%
KPMG (Peat Marwick)	1	*	4	☑					5	*
Texas Instruments	1	☑	3	*	1	1%			5	*
Planning Research Corporation/ATI										
SUBTOTAL	107	32%	293	32%	73	45%	64	94%	537	36%
OTHER VENDORS	229	68%	617	68%	89	55%	4	6%	939	64%
TOTAL MARKET	336	100%	910	100%	162	100%	68	100%	1476	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATION (PROCESSING) ($M)	(%)
International Business Machines	10	11%	15	14%	20	3%
Electronic Data Systems	11	12%	15	14%	122	20%
Policy Management Systems	2	2%	4	4%	80	13%
Andersen Consulting	32	34%	35	32%		
Computer Sciences Corporation		☑		☑	65	11%
Arthur D. Little						
Continuum Company (The)						
McDonnell Douglas Systems Integration	7	7%	12	11%	20	3%
Cap Gemini America	1	1%	1	1%		
Deloitte & Touche						
DMR	3	3%	5	5%		
CAPSO PALLM Systems						
Control Data Corporation	4	4%	7	6%		
National Education Corporation						
Wang Laboratories						
AGS Computers/NYNEX						
Keane, Inc.						
Computer Task Group						
Oracle Complex Systems	2	2%	2	2%		
KPMG (Peat Marwick)	3	3%	5	5%		
Texas Instruments	1	1%	1	1%		
Planning Research Corporation/ATI					5	1%
SUBTOTAL	74.7	79%	102	92%	312	51%
OTHER VENDORS	19.3	21%	9	8%	304	49%
TOTAL MARKET	94	100%	111	100%	616	100%

NOTE: ☑ = "RISING STAR"; * = < 1%

EXHIBIT III-16: 1989 COMPETITIVE MARKET STRUCTURE - SECURITIES

VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
Andersen Consulting	4	4%	20	7%	7	15%			31	7%
AT&T	8	8%	15	6%	4	9%			27	6%
Securities Industry Automation	16	17%	11	4%				☑	27	6%
Disclosure, Inc.	3	3%	17	6%	1	2%			21	5%
Citicorp Information Resources	1	1%	10	4%			3	15%	14	3%
TRW, Inc.	2	2%	8	3%	1	2%			11	3%
VISA USA							9	45%	9	2%
National Education Corporation					6	13%	1	5%	7	2%
Automated Data Processing							6	30%	6	1%
Ernst & Young	1	1%	4	1%	1	2%			6	1%
AGS Computers/NYNEX			5	2%					5	1%
Computer Task Group	1	1%	4	1%					5	1%
Computer Horizons			4	1%					4	1%
DST Systems	1	☑	3	1%					4	1%
GEIS Co			3	1%					3	1%
Teknekron Financial Services			3	☑					3	1%
Electronic Data Systems										0%
Security Pacific Corporation										
Total Systems Services										
SUBTOTAL	37	39%	107	40%	20	43%	19	95%	183	43%
OTHER VENDORS	59	61%	160	60%	27	57%	1	5%	247	57%
TOTAL MARKET	96	100%	267	100%	47	100%	20	100%	430	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATION (PROCESSING) ($M)	(%)
Andersen Consulting	9	29%	10	28%	1	☑
AT&T	3	10%	5	14%		
Securities Industry Automation	3	10%	4	11%	50	20%
Disclosure, Inc.					21	8%
Citicorp Information Resources					9	4%
TRW, Inc.	1	☑	3	☑	5	2%
VISA USA						
National Education Corporation						
Automated Data Processing					40	16%
Ernst & Young	3	9%	5	14%		
AGS Computers/NYNEX						
Computer Task Group						
Computer Horizons						
DST Systems						
GEIS Co						
Teknekron Financial Services						
Electronic Data Systems					20	8%
Security Pacific Corporation					20	8%
Total Systems Services					20	8%
SUBTOTAL	18	62%	27	75%	186	75%
OTHER VENDORS	11	38%	9	25%	63	25%
TOTAL MARKET	29	100%	36	100%	249	100%

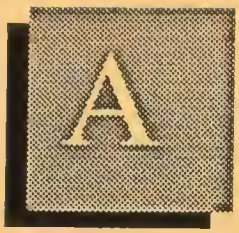
NOTE: ☑ = "RISING STAR"

EXHIBIT III-17: 1989 COMPETITIVE MARKET STRUCTURE - FEDERAL GOVERNMENT

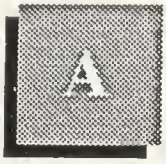
VENDOR	CONSULTING ($M)	CONSULTING (%)	SOFTWARE DEVELOPMENT ($M)	SOFTWARE DEVELOPMENT (%)	EDUCATION & TRAINING ($M)	EDUCATION & TRAINING (%)	SYSTEMS OPERATIONS (SERVICES) ($M)	SYSTEMS OPERATIONS (SERVICES) (%)	TOTAL PROFESSIONAL SERVICES ($M)	TOTAL PROFESSIONAL SERVICES (%)
Systems Applications Int'n'l Corp.	100	13%	156	7%	37	7%	55	6%	348	7%
Computer Sciences Corporation	75	9%	168	7%	29	6%	65	7%	337	7%
Martin Marietta Info. Systems	68	9%	180	8%	40	8%	5	1%	293	6%
Electronic Data Systems	61	8%	126	5%	42	8%	14	1%	243	5%
International Business Machines	66	8%	123	5%	34	6%	11	1%	234	5%
BDM International/Ford	33	4%	127	5%	10	2%	59	6%	229	5%
Unisys	58	7%	154	6%	12	2%			224	5%
Planning Research Corporation/ATI	60	8%	90	4%	32	6%			182	4%
Boeing Computer Services	41	5%	90	4%	28	5%	2	*	161	3%
Control Data Corporation	15	2%	60	3%	24	5%			99	2%
Grumman Data Systems	31	4%	35	1%	10	2%	5	1%	81	2%
Digital Equipment	10	1%	56	2%	10	2%			76	2%
COMARCO	5	1%	35	1%	8	2%	20	2%	68	1%
Computer Data Systems, Inc.	2	*	50	2%		☑	14	1%	66	1%
Cincinnati Bell Information Services	5	1%	7	*	51	10%			63	1%
Syscon Corporation			55	2%	5	1%			60	1%
Telos Corp.	6	1%	35	1%			10	1%	51	1%
CACI, Inc.	7	1%	41	2%	1	*			49	1%
SHL Systemhouse	10	1%	34	1%	1	*			45	1%
American Management Systems	3	*	24	1%	2	*		☑	29	1%
Oracle Complex Systems		☑	13	1%	8	2%	*	*	21	*
SUBTOTAL	656	82%	1659	70%	384	73%	260	27%	2959	63%
OTHER VENDORS	144	18%	724	30%	143	27%	701	73%	1712	37%
TOTAL MARKET	800	100%	2383	100%	527	100%	961	100%	4671	100%

VENDOR	SYSTEMS INTEGRATION (PROF. SVC. MARKET) ($M)	(%)	SYSTEMS INTEGRATION (TOTAL MARKET) ($M)	(%)	SYSTEMS OPERATION (PROCESSING) ($M)	(%)
Systems Applications Int'n'l Corp.	130	9%	180	11%		
Computer Sciences Corporation	170	12%	230	14%	25	10%
Martin Marietta Info. Systems	176	13%	230	14%		☑
Electronic Data Systems	141	10%	160	10%	44	17%
International Business Machines	185	13%	223	14%		☑
BDM International/Ford		☑		☑		
Unisys	90	7%	116	7%		
Planning Research Corporation/ATI	88	6%	115	7%		
Boeing Computer Services	53	4%	75	5%	15	6%
Control Data Corporation	51	4%	70	4%		
Grumman Data Systems	45	3%	71	4%		
Digital Equipment		☑		☑		
COMARCO						
Computer Data Systems, Inc.						
Cincinnati Bell Information Services		☑		☑		
Syscon Corporation					20	8%
Telos Corp.						
CACI, Inc.		☑		☑		
SHL Systemhouse		☑		☑		
American Management Systems		☑		☑		
Oracle Complex Systems		☑		☑	10	4%
SUBTOTAL	1129	82%	1470	91%	114	44%
OTHER VENDORS	249	18%	139	9%	143	56%
TOTAL MARKET	1378	100%	1609	100%	257	100%

NOTE: ☑ = "RISING STAR"; * = < 1



Appendix: Tables



Appendix: Tables

TABLE 1

INPUT Forecast with Inflation by Industry Mode

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
DISCRETE MANUFACTURING									
Professional Services	3120	3775	4365	5045	5830	6740	7790	9004	16
Systems Operations (Proc.)	100	114	137	164	197	236	284	341	20
Systems Integration	375	504	664	876	1157	1531	2028	2690	32
Software Development	175	235	310	410	542	715	945	1248	32
Design/Integration	72	97	126	163	211	273	354	459	30
Project Mgmt/Consulting	50	67	86	110	142	182	234	300	28
Software Products	36	48	69	100	145	210	303	438	45
Education/Training	9	12	16	21	27	36	47	62	31
Operations/Maintenance	8	11	14	18	23	30	38	49	28
Other Services	25	34	43	54	68	85	107	135	26
TOTAL	3595	4393	5166	6085	7184	8507	10102	12036	18
PROCESS MANUFACTURING									
Professional Services	1490	1818	2127	2488	2911	3406	3985	4663	17
Systems Operations (Proc.)	200	377	442	517	604	707	827	968	17
Systems Integration	55	72	87	104	126	152	183	221	21
Software Development	25	33	40	48	57	69	83	100	20
Design/Integration	8	11	13	16	18	22	26	31	19
Project Mgmt/Consulting	6	8	10	12	15	18	22	27	22
Software Products	7	9	11	13	15	18	22	26	20
Education/Training	1	1	1	2	2	3	4	5	32
Operations/Maintenance	1	1	1	2	2	3	4	5	32
Other Services	7	9	11	13	15	18	22	26	20
TOTAL	1745	2267	2655	3109	3642	4265	4996	5852	17
TRANSPORTATION									
Professional Services	170	194	219	247	280	316	357	403	13
Systems Operations (Proc.)	40	47	53	59	66	74	83	93	12
Systems Integration	69	83	96	112	130	152	177	207	16
Software Development	32	38	45	54	64	76	91	108	19
Design/Integration	13	16	18	19	21	24	26	29	10
Project Mgmt/Consulting	13	16	17	19	21	23	25	27	9
Software Products	4	5	6	8	9	11	14	17	23
Education/Training	2	2	2	3	3	4	5	6	20
Operations/Maintenance	1	1	1	2	2	2	3	4	25
Other Services	4	5	6	7	9	11	13	16	21
TOTAL	279	324	368	418	476	542	617	704	14

TABLE 1 (Con't)

INPUT Forecast with Inflation by Industry Mode

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
UTILITIES									
Professional Services	410	451	510	576	651	735	831	939	13
Systems Operations (Proc.)	30	34	39	44	51	59	68	78	15
Systems Integration	101	131	165	207	260	328	414	523	26
Software Development	56	72	91	116	147	186	236	299	27
Design/Integration	14	18	22	28	34	43	53	66	24
Project Mgmt/Consulting	16	21	25	29	34	40	47	55	17
Software Products	5	7	9	13	17	22	30	40	34
Education/Training	2	3	4	4	5	7	8	10	22
Operations/Maintenance	1	1	1	2	3	4	5	7	38
Other Services	7	9	12	15	20	27	35	46	31
TOTAL	541	616	713	827	962	1122	1313	1540	16
TELECOMMUNICATIONS									
Professional Services	680	809	939	1089	1263	1465	1700	1972	16
Systems Operations (Proc.)	35	47	55	64	74	86	99	115	16
Systems Integration	89	106	127	152	182	218	261	313	20
Software Development	46	55	66	80	97	117	141	170	21
Design/Integration	16	19	22	25	29	34	39	45	15
Project Mgmt/Consulting	14	17	20	23	27	31	36	42	16
Software Products	6	7	8	10	12	15	18	22	21
Education/Training	2	2	2	3	4	5	6	7	25
Operations/Maintenance	1	1	1	2	2	3	4	5	32
Other Services	4	5	6	8	10	13	17	22	28
TOTAL	804	962	1120	1305	1519	1769	2060	2400	16
RETAIL DISTRIBUTION									
Professional Services	180	216	248	286	329	378	434	500	15
Systems Operations (Proc.)	15	16	20	25	32	40	49	62	25
Systems Integration	86	119	164	227	314	435	603	836	38
Software Development	37	51	72	100	141	198	278	390	40
Design/Integration	18	26	36	49	66	91	124	169	37
Project Mgmt/Consulting	13	18	24	33	45	61	83	113	36
Software Products	9	12	17	24	33	47	66	93	41
Education/Training	2	3	4	5	7	8	11	14	30
Operations/Maintenance	1	1	2	3	4	7	11	18	62
Other Services	6	8	10	14	18	23	30	39	30
TOTAL	281	351	433	538	674	852	1087	1398	25

TABLE 1 (Con't)

INPUT Forecast with Inflation by Industry Mode

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
WHOLESALE DISTRIBUTION									
Professional Services	280	325	367	415	469	530	598	676	13
Systems Operations (Proc.)	60	67	80	95	113	135	160	190	19
Systems Integration	69	82	97	116	137	163	194	231	19
Software Development	30	36	43	52	62	75	90	108	20
Design/Integration	15	18	21	25	29	33	39	46	17
Project Mgmt/Consulting	11	13	15	18	21	24	28	33	17
Software Products	6	7	8	9	11	13	15	17	16
Education/Training	1	1	1	2	2	3	4	5	32
Operations/Maintenance	1	1	1	2	2	3	4	5	32
Other Services	5	6	7	8	10	12	14	17	18
TOTAL	409	474	544	625	719	828	952	1098	15
BANKING AND FINANCE									
Professional Services	1910	2273	2682	3165	3734	4407	5200	6136	18
Systems Operations (Proc.)	1200	1416	1643	1905	2210	2564	2974	3450	16
Systems Integration	146	203	269	357	474	631	840	1121	33
Software Development	55	77	102	134	177	233	308	406	32
Design/Integration	32	45	60	80	106	141	188	250	33
Project Mgmt/Consulting	26	36	46	58	74	94	120	153	27
Software Products	14	19	28	40	58	84	122	177	45
Education/Training	3	4	5	7	10	14	19	26	37
Operations/Maintenance	3	4	5	7	10	14	19	26	37
Other Services	13	18	23	30	39	50	64	82	29
TOTAL	3256	3892	4594	5427	6418	7601	9014	10706	18
INSURANCE									
Professional Services	1200	1380	1573	1793	2045	2331	2657	3029	14
Systems Operations (Proc.)	545	616	751	917	1118	1364	1664	2030	22
Systems Integration	84	111	140	176	223	283	360	460	27
Software Development	29	38	47	58	71	88	108	133	23
Design/Integration	18	24	30	39	49	62	79	100	27
Project Mgmt/Consulting	21	28	35	43	53	66	82	102	24
Software Products	8	10	14	19	27	37	52	72	39
Education/Training	2	3	4	6	8	10	14	19	36
Operations/Maintenance	1	1	2	3	4	7	11	18	62
Other Services	5	7	8	9	11	12	14	16	15
TOTAL	1829	2107	2464	2887	3385	3977	4681	5519	17

TABLE 1 (Con't)

INPUT Forecast with Inflation by Industry Mode

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
MEDICAL									
Professional Services	300	345	379	417	459	505	556	611	10
Systems Operations (Proc.)	550	635	725	835	960	1105	1270	1459	15
Systems Integration	93	122	153	191	240	301	379	478	25
Software Development	43	56	70	87	108	134	167	208	24
Design/Integration	13	18	23	29	37	47	59	75	27
Project Mgmt/Consulting	12	16	20	24	29	36	44	54	22
Software Products	13	17	21	26	33	41	51	64	25
Education/Training	1	1	2	2	4	6	9	14	55
Operations/Maintenance	1	1	2	2	4	6	9	14	55
Other Services	10	13	16	20	26	32	40	50	25
TOTAL	943	1102	1257	1444	1659	1911	2205	2548	15
EDUCATION									
Professional Services	60	69	79	91	105	121	139	160	15
Systems Operations (Proc.)	70	73	80	88	97	107	117	129	10
Systems Integration	36	49	56	64	74	86	101	119	16
Software Development	15	19	23	27	33	39	47	56	20
Design/Integration	8	10	11	12	14	15	17	19	11
Project Mgmt/Consulting	6	8	9	9	10	10	11	12	7
Software Products	3	4	5	7	10	13	17	23	34
Education/Training	1	2	2	2	3	3	3	3	8
Operations/Maintenance	1	1	1	1	1	1	1	1	0
Other Services	4	5	5	5	5	5	5	5	0
TOTAL	166	191	215	243	276	314	357	407	13
SERVICES									
Professional Services	120	137	153	172	192	215	241	270	12
Systems Operations (Proc.)	10	13	15	18	22	26	31	37	19
Systems Integration	19	24	31	40	51	65	83	106	28
Software Development	8	11	14	18	23	30	39	50	29
Design/Integration	4	5	6	8	10	13	16	20	26
Project Mgmt/Consulting	2	2	3	3	5	6	8	11	32
Software Products	2	2	3	3	4	5	7	9	28
Education/Training	1	1	1	2	2	2	3	4	25
Operations/Maintenance	*	*	1	1	1	2	2	3	32
Other Services	2	3	4	4	5	7	8	10	22
TOTAL	149	174	199	229	265	306	355	413	15

* = Under $1 million

TABLE 1 (Con't)

INPUT Forecast with Inflation by Industry Mode

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
FEDERAL GOVERNMENT									
Professional Services	2910	3259	3520	3802	4106	4434	4789	5172	8
Systems Operations (Proc.)	215	249	292	341	399	467	547	640	17
Systems Integration	1287	1594	1893	2250	2674	3179	3781	4499	19
Software Development	605	828	966	1128	1317	1537	1794	2094	17
Design/Integration	220	300	363	440	533	646	783	949	21
Project Mgmt/Consulting	132	181	217	261	313	376	451	541	20
Software Products	145	136	165	200	243	294	357	433	21
Education/Training	15	21	25	30	36	43	51	61	19
Operations/Maintenance	26	35	43	52	64	78	95	116	22
Other Services	144	93	113	138	168	205	250	305	22
TOTAL	4412	5102	5705	6392	7178	8080	9117	10311	12
STATE & LOCAL GOVERNMENT									
Professional Services	1900	2185	2491	2840	3237	3690	4207	4796	14
Systems Operations (Proc.)	550	611	751	924	1136	1397	1719	2114	23
Systems Integration	235	288	354	435	536	662	818	1013	23
Software Development	104	127	155	188	229	279	340	414	22
Design/Integration	33	40	52	68	88	114	148	192	30
Project Mgmt/Consulting	35	43	53	67	83	103	128	159	24
Software Products	26	32	41	53	68	88	113	145	29
Education/Training	6	7	9	10	13	16	19	23	22
Operations/Maintenance	5	7	8	10	11	14	16	19	18
Other Services	26	32	36	39	44	49	54	60	11
TOTAL	2685	3084	3596	4199	4909	5749	6744	7923	17
OTHER INDUSTRY-SPECIFIC									
Professional Services	290	322	361	404	452	507	567	635	12
Systems Operations (Proc.)	15	17	22	27	34	42	53	67	26
Systems Integration	47	57	68	81	97	118	145	179	21
Software Development	19	20	25	32	41	53	67	85	27
Design/Integration	10	16	17	19	21	23	25	27	9
Project Mgmt/Consulting	8	10	11	12	13	15	16	18	10
Software Products	3	4	6	8	12	17	24	34	43
Education/Training	2	2	2	3	3	3	4	5	15
Operations/Maintenance	0.	1	1	1	2	2	2	2	15
Other Services	4	4	4	5	6	6	7	8	12
TOTAL	352	396	450	512	584	667	765	881	14

TABLE 1 (Con't)

INPUT Forecast with Inflation by Industry Mode

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
GRAND TOTAL									
Professional Services	15020	17558	20013	22829	26062	29780	34051	38966	14
Systems Operations (Proc.)	3635	4333	5105	6023	7113	8408	9946	11772	18
Systems Integration	2791	3545	4363	5387	6676	8303	10367	12996	24
Software Development	1279	1696	2069	2533	3109	3830	4734	5872	23
Design/Integration	493	663	821	1019	1267	1581	1976	2476	24
Project Mgmt/Consulting	365	484	590	722	884	1085	1335	1646	22
Software Products	287	319	412	534	697	916	1211	1611	31
Education/Training	50	65	81	102	129	163	207	264	26
Operations/Maintenance	51	67	85	107	136	174	224	291	27
Other Services	266	251	305	371	453	554	680	836	22
TOTAL	21446	25436	29481	34239	39851	46491	54364	63735	16

TABLE 2

INPUT Forecast without Inflation by Industry Mode (Base 1988 Dollars)

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
INFLATION FACTORS	1.000 1.0000	1.0480 1.048000	1.0520 1.102496	1.0550 1.163133	1.0500 1.221290	1.0450 1.276248	1.0450 1.333679	1.0450 1.393695	
DISCRETE MANUFACTURING									
Professional Services	3120	3602	3959	4337	4774	5281	5841	6461	10
Systems Operations (Proc.)	100	109	124	141	161	185	213	245	14
Systems Integration	375	481	602	753	948	1200	1521	1930	26
Software Development	175	224	282	353	443	561	709	896	26
Design/Integration	72	93	114	140	173	214	265	329	23
Project Mgmt/Consulting	50	64	78	95	116	143	175	216	22
Software Products	36	46	63	86	119	164	227	314	38
Education/Training	9	11	14	18	22	28	35	44	25
Operations/Maintenance	8	10	13	16	19	23	28	35	22
Other Services	25	32	39	46	55	67	80	97	20
TOTAL	3595	4192	4686	5232	5883	6666	7575	8636	13
PROCESS MANUFACTURING									
Professional Services	1490	1735	1929	2139	2384	2669	2988	3346	11
Systems Operations (Proc.)	200	360	401	444	495	554	620	695	11
Systems Integration	55	69	79	90	103	119	137	158	15
Software Development	25	31	36	41	47	54	62	72	15
Design/Integration	8	10	12	13	15	17	19	22	13
Project Mgmt/Consulting	6	8	9	10	12	14	16	19	17
Software Products	7	9	10	11	13	14	16	19	14
Education/Training	1	1	1	1	2	2	3	4	26
Operations/Maintenance	1	1	1	1	2	2	3	4	26
Other Services	7	9	10	11	13	14	16	19	14
TOTAL	1745	2163	2408	2673	2982	3342	3746	4199	12
TRANSPORTATION									
Professional Services	170	185	199	213	229	248	268	290	8
Systems Operations (Proc.)	40	45	48	51	54	58	62	67	7
Systems Integration	69	79	87	96	106	119	133	149	11
Software Development	32	36	41	46	53	60	68	78	13
Design/Integration	13	15	16	17	18	18	19	21	5
Project Mgmt/Consulting	13	15	16	16	17	18	19	20	4
Software Products	4	5	6	6	8	9	10	12	17
Education/Training	2	2	2	2	3	3	4	4	14
Operations/Maintenance	1	1	1	1	2	2	2	3	19
Other Services	4	5	5	6	7	8	10	11	15
TOTAL	279	309	334	360	389	424	463	505	8

TABLE 2 (Con't)

INPUT Forecast without Inflation by Industry Mode (Base 1988 Dollars)

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
INFLATION FACTORS	1.000 1.0000	1.0480 1.048000	1.0520 1.102496	1.0550 1.163133	1.0500 1.221290	1.0450 1.276248	1.0450 1.333679	1.0450 1.393695	
UTILITIES									
Professional Services	410	430	462	495	533	576	623	674	8
Systems Operations (Proc.)	30	32	35	38	42	46	51	56	9
Systems Integration	101	125	149	178	213	257	310	375	20
Software Development	56	69	83	100	120	146	177	215	21
Design/Integration	14	17	20	24	28	33	40	47	18
Project Mgmt/Consulting	16	20	22	25	28	31	35	40	12
Software Products	5	7	8	11	14	18	22	29	27
Education/Training	2	3	3	4	4	5	6	7	16
Operations/Maintenance	1	1	1	2	2	3	4	5	31
Other Services	7	9	11	13	17	21	26	33	25
TOTAL	541	588	647	711	788	880	984	1105	11
TELECOMMUNICATIONS									
Professional Services	680	772	851	936	1034	1148	1274	1415	11
Systems Operations (Proc.)	35	45	50	55	61	67	74	82	11
Systems Integration	89	101	115	130	149	171	196	225	14
Software Development	46	52	60	69	79	92	106	122	15
Design/Integration	16	18	20	22	24	26	29	32	10
Project Mgmt/Consulting	14	16	18	20	22	24	27	30	11
Software Products	6	7	8	9	10	12	13	16	15
Education/Training	2	2	2	3	3	4	4	5	19
Operations/Maintenance	1	1	1	1	2	2	3	4	26
Other Services	4	5	6	7	9	10	13	16	22
TOTAL	804	918	1016	1122	1243	1386	1544	1722	11
RETAIL DISTRIBUTION									
Professional Services	180	206	225	246	269	296	326	358	10
Systems Operations (Proc.)	15	15	18	22	26	31	37	44	19
Systems Integration	86	114	149	195	257	341	452	600	32
Software Development	37	49	65	86	116	155	208	280	34
Design/Integration	18	25	32	42	54	71	93	122	30
Project Mgmt/Consulting	13	17	22	29	37	48	62	81	29
Software Products	9	11	15	20	27	37	49	67	34
Education/Training	2	3	4	4	5	7	8	10	24
Operations/Maintenance	1	1	1	2	3	5	8	13	54
Other Services	6	8	9	12	14	18	22	28	24
TOTAL	281	335	393	463	552	668	815	1003	19

TABLE 2 (Con't)

INPUT Forecast without Inflation by Industry Mode (Base 1988 Dollars)

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
INFLATION FACTORS	1.000 1.0000	1.0480 1.048000	1.0520 1.102496	1.0550 1.163133	1.0500 1.221290	1.0450 1.276248	1.0450 1.333679	1.0450 1.393695	
WHOLESALE DISTRIBUTION									
Professional Services	280	310	333	357	384	415	449	485	8
Systems Operations (Proc.)	60	64	73	82	93	106	120	137	13
Systems Integration	69	78	88	99	112	128	145	166	13
Software Development	30	34	39	45	51	59	67	78	14
Design/Integration	15	17	19	21	23	26	29	33	11
Project Mgmt/Consulting	11	12	14	15	17	19	21	23	11
Software Products	6	7	7	8	9	10	11	13	11
Education/Training	1	1	1	1	2	2	3	4	26
Operations/Maintenance	1	1	1	1	2	2	3	4	26
Other Services	5	6	6	7	8	9	10	12	13
TOTAL	409	452	494	538	589	649	714	787	10
BANKING AND FINANCE									
Professional Services	1910	2169	2433	2721	3058	3453	3899	4403	12
Systems Operations (Proc.)	1200	1351	1490	1638	1810	2009	2230	2475	11
Systems Integration	146	194	244	307	388	494	630	804	27
Software Development	55	73	92	115	145	183	231	292	26
Design/Integration	32	43	54	69	87	111	141	180	27
Project Mgmt/Consulting	26	34	42	50	61	74	90	110	21
Software Products	14	18	25	34	47	66	91	127	38
Education/Training	3	4	5	6	8	11	14	19	30
Operations/Maintenance	3	4	5	6	8	11	14	19	30
Other Services	13	17	21	26	32	39	48	59	23
TOTAL	3256	3714	4167	4666	5256	5956	6759	7682	13
INSURANCE									
Professional Services	1200	1317	1427	1542	1674	1826	1992	2173	9
Systems Operations (Proc.)	545	588	681	788	915	1069	1248	1456	16
Systems Integration	84	106	127	151	182	222	270	330	21
Software Development	29	36	42	50	58	69	81	95	17
Design/Integration	18	23	28	33	40	49	59	72	21
Project Mgmt/Consulting	21	27	31	37	44	52	61	73	18
Software Products	8	10	13	17	22	29	39	52	33
Education/Training	2	3	4	5	6	8	10	14	30
Operations/Maintenance	1	1	1	2	3	5	8	13	54
Other Services	5	7	7	8	9	10	10	12	9
TOTAL	1829	2010	2235	2482	2772	3117	3510	3960	12

TABLE 2 (Con't)

INPUT Forecast without Inflation by Industry Mode (Base 1988 Dollars)

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
INFLATION FACTORS	1.000 1.0000	1.0480 1.048000	1.0520 1.102496	1.0550 1.163133	1.0500 1.221290	1.0450 1.276248	1.0450 1.333679	1.0450 1.393695	
MEDICAL									
Professional Services	300	329	344	359	376	396	417	439	5
Systems Operations (Proc.)	550	606	658	718	786	866	952	1047	9
Systems Integration	93	116	138	164	196	236	284	343	20
Software Development	43	53	63	75	88	105	125	149	19
Design/Integration	13	17	21	25	30	36	44	54	21
Project Mgmt/Consulting	12	15	18	21	24	28	33	39	17
Software Products	13	16	19	23	27	32	38	46	19
Education/Training	1	1	1	2	3	5	7	10	48
Operations/Maintenance	1	1	1	2	3	5	7	10	48
Other Services	10	12	15	18	21	25	30	36	19
TOTAL	943	1052	1140	1241	1358	1498	1653	1828	9
EDUCATION									
Professional Services	60	66	72	78	86	95	104	115	10
Systems Operations (Proc.)	70	70	73	76	79	84	88	92	5
Systems Integration	36	47	51	55	61	68	76	85	10
Software Development	15	18	21	23	27	31	35	40	14
Design/Integration	8	10	10	11	11	12	13	14	6
Project Mgmt/Consulting	6	8	8	8	8	8	8	8	2
Software Products	3	4	5	6	8	10	13	16	27
Education/Training	1	2	2	2	2	2	2	2	3
Operations/Maintenance	1	1	1	1	1	1	1	1	-5
Other Services	4	5	5	4	4	4	4	4	-5
TOTAL	166	182	195	209	226	246	268	292	8
SERVICES									
Professional Services	120	131	139	148	157	169	181	194	7
Systems Operations (Proc.)	10	12	14	15	18	20	23	26	13
Systems Integration	19	23	28	34	42	51	62	76	22
Software Development	8	10	13	15	19	24	29	36	23
Design/Integration	4	5	6	7	8	10	12	14	20
Project Mgmt/Consulting	2	2	2	3	4	5	6	8	26
Software Products	2	2	2	3	3	4	5	6	22
Education/Training	1	1	1	1	2	2	2	3	19
Operations/Maintenance	0	0	1	1	1	1	1	2	26
Other Services	2	3	3	4	4	5	6	7	16
TOTAL	149	166	181	197	217	240	266	296	10

TABLE 2 (Con't)

INPUT Forecast without Inflation by Industry Mode (Base 1988 Dollars)

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
INFLATION FACTORS	1.000 1.0000	1.0480 1.048000	1.0520 1.102496	1.0550 1.163133	1.0500 1.221290	1.0450 1.276248	1.0450 1.333679	1.0450 1.393695	
FEDERAL GOVERNMENT									
Professional Services	2910	3110	3193	3268	3362	3474	3591	3711	3
Systems Operations (Proc.)	215	238	265	293	327	366	410	459	12
Systems Integration	1287	1521	1717	1934	2189	2491	2835	3228	13
Software Development	605	790	877	970	1078	1204	1345	1502	11
Design/Integration	220	286	330	379	437	506	587	681	15
Project Mgmt/Consulting	132	173	197	224	256	294	338	388	14
Software Products	145	130	150	172	199	231	268	311	16
Education/Training	15	20	23	26	29	33	38	44	14
Operations/Maintenance	26	33	39	45	52	61	71	83	16
Other Services	144	89	103	119	138	161	187	219	16
TOTAL	4412	4869	5175	5496	5878	6331	6836	7398	7
STATE & LOCAL GOVERNMENT									
Professional Services	1900	2085	2259	2441	2651	2892	3154	3441	9
Systems Operations (Proc.)	550	583	681	794	930	1095	1289	1517	17
Systems Integration	235	275	321	374	439	518	613	727	17
Software Development	104	121	140	162	188	219	255	297	16
Design/Integration	33	38	47	58	72	89	111	138	24
Project Mgmt/Consulting	35	41	49	57	68	81	96	114	19
Software Products	26	31	37	46	56	69	85	104	23
Education/Training	6	7	8	9	10	12	14	17	16
Operations/Maintenance	5	7	7	8	9	11	12	14	12
Other Services	26	31	32	34	36	38	40	43	6
TOTAL	2685	2943	3261	3610	4020	4505	5057	5685	11
OTHER INDUSTRY-SPECIFIC									
Professional Services	290	307	327	347	370	397	425	456	7
Systems Operations (Proc.)	15	16	20	23	28	33	40	48	20
Systems Integration	47	54	61	69	80	93	109	129	15
Software Development	19	19	23	28	34	41	50	61	21
Design/Integration	10	15	16	16	17	18	19	20	4
Project Mgmt/Consulting	8	10	10	10	11	11	12	13	5
Software Products	3	4	5	7	10	13	18	25	36
Education/Training	2	2	2	2	2	3	3	3	9
Operations/Maintenance	0.	1	1	1	1	1	1	2	9
Other Services	4	4	4	4	5	5	5	6	7
TOTAL	352	378	408	440	478	522	574	632	9

TABLE 2 (Con't)

INPUT Forecast without Inflation by Industry Mode (Base 1988 Dollars)

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
INFLATION FACTORS	1.000 1.0000	1.0480 1.048000	1.0520 1.102496	1.0550 1.163133	1.0500 1.221290	1.0450 1.276248	1.0450 1.333679	1.0450 1.393695	
GRAND TOTAL									
Professional Services	15020	16753	18153	19628	21340	23334	25532	27959	9
Systems Operations (Proc.)	3635	4134	4630	5178	5824	6589	7457	8447	13
Systems Integration	2791	3383	3957	4632	5466	6506	7773	9325	18
Software Development	1279	1618	1877	2177	2546	3001	3550	4213	17
Design/Integration	493	633	745	876	1038	1238	1482	1777	19
Project Mgmt/Consulting	365	462	535	620	724	850	1001	1181	17
Software Products	287	304	373	459	571	718	908	1156	24
Education/Training	50	62	74	88	105	128	155	190	20
Operations/Maintenance	51	64	77	92	111	136	168	209	21
Other Services	266	240	276	319	371	434	510	600	16
TOTAL	21446	24271	26740	29437	32630	36428	40763	45731	11

TABLE 3

IBM Forecast Without Inflation by Industry Mode

IBM SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
MANUFACTURING									
Professional Services	2552	2940	3229	3535	3888	4298	4751	5252	10
Systems Operations (Proc.)	84	93	106	120	138	158	182	209	14
Systems Integration	309	395	494	616	773	977	1236	1568	26
Software Development	144	183	230	287	361	456	576	728	26
Design/Integration	59	77	94	115	141	175	216	267	23
Project Mgmt/Consulting	41	53	64	78	95	116	142	175	22
Software Products	29	37	51	70	97	133	184	255	38
Education/Training	8	10	12	15	18	23	29	36	25
Operations/Maintenance	6	9	10	13	15	19	23	28	22
Other Services	21	27	32	38	46	55	66	79	20
TOTAL	2945	3428	3829	4271	4799	5433	6169	7029	12
PROCESS									
Professional Services	1517	1761	1957	2167	2413	2698	3018	3376	11
Systems Operations (Proc.)	200	357	397	440	491	550	616	689	12
Systems Integration	68	84	98	113	131	153	180	211	16
Software Development	31	39	45	53	61	72	84	99	16
Design/Integration	10	13	15	17	20	23	26	31	15
Project Mgmt/Consulting	8	10	12	14	16	18	22	25	16
Software Products	8	10	11	13	15	17	21	24	16
Education/Training	1	1	2	2	3	3	4	5	24
Operations/Maintenance	1	1	1	2	2	3	4	5	26
Other Services	8	10	11	13	14	17	19	22	15
TOTAL	1785	2203	2451	2721	3034	3401	3813	4276	12
COMMUNICATIONS									
Professional Services	510	579	639	702	776	861	956	1061	11
Systems Operations (Proc.)	26	34	37	41	45	51	56	62	11
Systems Integration	67	76	86	98	112	128	147	169	14
Software Development	35	39	45	52	59	69	79	92	15
Design/Integration	12	14	15	16	18	20	22	24	10
Project Mgmt/Consulting	11	12	13	15	16	18	20	23	11
Software Products	5	5	6	7	8	9	10	12	15
Education/Training	2	1	2	2	2	3	3	4	19
Operations/Maintenance	1	1	1	1	1	2	2	3	26
Other Services	3	4	4	5	6	8	10	12	22
TOTAL	603	689	762	841	933	1039	1158	1291	11

TABLE 3 (Con't)

IBM Forecast Without Inflation by Industry Mode

IBM SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
COMPUTER SERVICES									
Professional Services	33	36	38	40	43	46	50	53	7
Systems Operations (Proc.)	4	4	5	5	6	7	7	8	12
Systems Integration	6	7	8	10	11	13	15	18	16
Software Development	3	3	3	4	5	6	7	9	21
Design/Integration	1	2	2	2	2	3	3	3	8
Project Mgmt/Consulting	1	1	1	1	1	1	2	2	8
Software Products	0	1	1	1	1	2	2	3	31
Education/Training	0	0	0	0	0	0	0	1	11
Operations/Maintenance	0	0	0	0	0	0	0	0	13
Other Services	1	1	1	1	1	1	1	1	8
TOTAL	44	47	51	55	60	66	73	80	9
CONSULTANT									
Professional Services	5	6	6	6	7	7	8	8	7
Systems Operations (Proc.)	0	0	0	1	1	1	1	1	17
Systems Integration	1	1	1	1	2	2	2	3	17
Software Development	0	0	0	1	1	1	1	1	22
Design/Integration	0	0	0	0	0	0	0	0	9
Project Mgmt/Consulting	0	0	0	0	0	0	0	0	9
Software Products	0	0	0	0	0	0	0	0	32
Education/Training	0	0	0	0	0	0	0	0	13
Operations/Maintenance	0	0	0	0	0	0	0	0	16
Other Services	0	0	0	0	0	0	0	0	11
TOTAL	7	7	8	8	9	10	11	12	9
HEALTH									
Professional Services	402	438	460	482	507	536	567	600	5
Systems Operations (Proc.)	556	613	666	727	797	879	968	1065	10
Systems Integration	109	136	161	190	226	272	327	394	19
Software Development	50	61	72	85	101	121	145	173	19
Design/Integration	16	22	26	31	36	43	52	62	19
Project Mgmt/Consulting	14	18	21	24	28	32	37	44	16
Software Products	14	18	21	25	30	36	44	53	20
Education/Training	2	2	2	3	4	6	8	12	37
Operations/Maintenance	1	1	2	3	4	5	7	11	42
Other Services	12	14	17	20	23	28	33	39	18
TOTAL	1067	1186	1286	1399	1531	1687	1861	2059	9

TABLE 3 (Con't)

IBM Forecast Without Inflation by Industry Mode

IBM SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
HIGHER EDUCATION									
Professional Services	47	52	57	62	68	74	82	90	9
Systems Operations (Proc.)	53	52	55	57	60	63	66	70	5
Systems Integration	28	36	39	42	46	52	58	65	10
Software Development	12	14	16	18	20	23	27	31	14
Design/Integration	6	7	8	8	9	9	10	10	6
Project Mgmt/Consulting	5	6	6	6	6	6	6	6	2
Software Products	2	3	4	5	6	8	10	12	27
Education/Training	0	1	1	2	2	2	2	2	3
Operations/Maintenance	0	0	0	0	0	0	0	0	-4
Other Services	3	4	3	3	3	3	3	3	-4
TOTAL	128	140	150	161	174	189	206	225	8
MEDIA									
Professional Services	539	615	674	737	810	894	988	1091	10
Systems Operations (Proc.)	22	26	30	33	38	43	49	55	13
Systems Integration	69	84	102	122	149	183	225	278	22
Software Development	33	40	48	59	72	88	108	134	22
Design/Integration	13	17	19	23	27	32	38	46	18
Project Mgmt/Consulting	10	12	14	16	19	23	27	32	17
Software Products	6	7	9	12	16	22	29	40	33
Education/Training	2	2	2	3	4	4	5	7	22
Operations/Maintenance	1	1	2	2	3	3	4	5	22
Other Services	4	5	6	8	9	11	13	15	19
TOTAL	631	725	805	893	996	1120	1261	1424	12
SCHOOLS									
Professional Services	17	18	20	22	24	26	28	31	9
Systems Operations (Proc.)	16	16	16	17	18	19	20	21	5
Systems Integration	9	11	12	13	14	16	18	21	11
Software Development	4	4	5	6	6	7	8	10	15
Design/Integration	2	2	2	3	3	3	3	3	6
Project Mgmt/Consulting	1	2	2	2	2	2	2	2	2
Software Products	1	1	1	1	2	2	3	4	28
Education/Training	0	0	0	0	0	1	1	1	4
Operations/Maintenance	0	0	0	0	0	0	0	0	-3
Other Services	1	1	1	1	1	1	1	1	-4
TOTAL	41	45	48	52	56	61	66	73	8

TABLE 3 (Con't)

IBM Forecast Without Inflation by Industry Mode

IBM SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
STATE/LOCAL GOVERNMENT									
Professional Services	1900	2085	2259	2441	2651	2892	3154	3441	9
Systems Operations (Proc.)	550	583	681	794	930	1095	1289	1517	17
Systems Integration	235	275	321	374	439	518	613	727	17
Software Development	104	121	140	162	188	219	255	297	16
Design/Integration	33	38	47	58	72	89	111	138	24
Project Mgmt/Consulting	35	41	49	57	68	81	96	114	19
Software Products	26	31	37	46	56	69	85	104	23
Education/Training	6	7	8	9	10	12	14	17	16
Operations/Maintenance	5	7	7	8	9	11	12	14	12
Other Services	26	31	32	34	36	38	40	43	6
TOTAL	2685	2943	3261	3610	4020	4505	5057	5685	11
TRANSPORTATION									
Professional Services	143	156	167	179	193	208	225	243	8
Systems Operations (Proc.)	33	37	40	42	45	48	52	55	7
Systems Integration	57	66	72	80	88	99	110	124	11
Software Development	26	30	34	38	44	50	57	65	14
Design/Integration	11	13	13	14	15	15	16	17	5
Project Mgmt/Consulting	11	13	13	14	14	15	16	16	4
Software Products	3	4	5	5	6	7	9	10	17
Education/Training	2	2	2	2	2	3	3	4	14
Operations/Maintenance	1	1	1	1	1	2	2	2	19
Other Services	3	4	5	5	6	7	8	9	15
TOTAL	233	258	279	300	326	355	387	422	8
UTILITIES									
Professional Services	383	402	432	463	498	539	583	630	8
Systems Operations (Proc.)	28	30	33	35	39	43	48	52	9
Systems Integration	94	117	140	166	199	240	290	351	20
Software Development	52	64	77	93	112	136	165	201	21
Design/Integration	13	16	19	22	26	31	37	44	18
Project Mgmt/Consulting	15	19	21	23	26	29	33	37	12
Software Products	5	6	8	10	13	16	21	27	27
Education/Training	2	3	3	4	4	5	6	7	16
Operations/Maintenance	1	1	1	2	2	3	4	5	31
Other Services	7	8	10	12	16	20	25	31	25
TOTAL	506	550	605	665	737	822	920	1033	11

TABLE 3 (Con't)

IBM Forecast Without Inflation by Industry Mode

IBM SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
WHOLESALE DISTRIBUTION									
Professional Services	387	424	455	487	523	564	609	657	7
Systems Operations (Proc.)	65	70	80	90	103	118	134	154	14
Systems Integration	89	102	117	134	155	181	212	249	16
Software Development	38	44	51	60	70	83	98	117	18
Design/Integration	19	23	26	29	32	37	42	48	12
Project Mgmt/Consulting	14	16	18	20	22	25	29	33	12
Software Products	8	9	10	12	14	16	20	24	18
Education/Training	2	2	2	3	3	4	5	6	21
Operations/Maintenance	1	1	2	2	3	3	4	5	25
Other Services	7	8	9	10	11	13	14	16	13
TOTAL	541	597	652	711	781	863	955	1060	10
RETAIL DISTRIBUTION									
Professional Services	512	590	648	709	780	862	953	1053	10
Systems Operations (Proc.)	28	33	38	44	51	59	69	80	16
Systems Integration	118	155	200	258	335	437	573	751	30
Software Development	52	68	89	116	152	201	265	350	31
Design/Integration	24	32	41	53	68	87	113	146	28
Project Mgmt/Consulting	17	22	28	36	46	59	75	97	27
Software Products	12	15	21	28	37	51	69	93	35
Education/Training	3	4	5	6	7	9	11	14	24
Operations/Maintenance	2	2	3	4	5	7	11	15	40
Other Services	8	10	13	16	19	24	29	36	23
TOTAL	659	778	886	1011	1166	1359	1594	1884	15
FINANCE									
Professional Services	1594	1809	2028	2267	2546	2873	3243	3660	12
Systems Operations (Proc.)	990	1115	1230	1351	1493	1658	1841	2043	11
Systems Integration	124	163	206	258	326	414	528	673	26
Software Development	47	62	78	97	122	154	194	245	26
Design/Integration	27	36	46	58	73	93	118	150	26
Project Mgmt/Consulting	22	29	35	42	51	62	75	91	21
Software Products	12	15	21	29	40	55	77	106	38
Education/Training	3	3	4	5	7	9	12	16	30
Operations/Maintenance	2	3	4	5	7	9	12	16	30
Other Services	11	14	18	22	26	33	40	49	23
TOTAL	2708	3087	3463	3876	4365	4946	5611	6376	13

TABLE 3 (Con't)

IBM Forecast Without Inflation by Industry Mode

IBM SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
INSURANCE									
Professional Services	1201	1318	1428	1543	1676	1828	1994	2175	9
Systems Operations (Proc.)	545	588	681	789	916	1069	1248	1457	16
Systems Integration	84	106	127	152	183	222	270	331	21
Software Development	29	36	43	50	58	69	81	96	17
Design/Integration	18	23	28	33	40	49	59	72	21
Project Mgmt/Consulting	21	27	32	37	44	52	62	73	18
Software Products	8	10	13	17	22	29	39	52	33
Education/Training	2	3	4	5	6	8	11	14	30
Operations/Maintenance	1	1	1	2	3	5	8	13	54
Other Services	5	7	7	8	9	10	11	12	9
TOTAL	1831	2012	2237	2484	2774	3119	3512	3963	12
SECURITIES									
Professional Services	336	382	428	479	538	608	686	775	12
Systems Operations (Proc.)	211	238	262	288	318	354	392	436	11
Systems Integration	26	34	43	54	68	87	111	142	27
Software Development	10	13	16	20	25	32	41	51	26
Design/Integration	6	8	10	12	15	19	25	32	27
Project Mgmt/Consulting	5	6	7	9	11	13	16	19	21
Software Products	2	3	4	6	8	12	16	22	38
Education/Training	1	1	1	1	1	2	3	3	30
Operations/Maintenance	1	1	1	1	1	2	3	3	30
Other Services	2	3	4	5	6	7	8	10	23
TOTAL	573	654	733	821	925	1048	1190	1352	13
FEDERAL GOVERNMENT									
Professional Services	2940	3142	3227	3306	3402	3518	3638	3762	3
Systems Operations (Proc.)	222	245	273	302	336	376	421	471	11
Systems Integration	1299	1535	1733	1951	2208	2512	2858	3254	13
Software Development	611	796	884	978	1087	1215	1357	1516	11
Design/Integration	222	289	332	381	440	510	591	684	15
Project Mgmt/Consulting	134	175	200	227	259	298	341	392	14
Software Products	146	131	151	173	200	232	270	313	16
Education/Training	15	20	23	26	30	34	39	44	14
Operations/Maintenance	26	34	39	45	52	61	72	84	16
Other Services	145	90	104	120	139	162	189	221	16
TOTAL	4461	4923	5233	5558	5946	6405	6917	7486	7

TABLE 3 (Con't)

IBM Forecast Without Inflation by Industry Mode

IBM SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
GRAND TOTAL									
Professional Services	15020	16753	18153	19628	21340	23334	25532	27959	9
Systems Operations (Proc.)	3635	4134	4630	5178	5824	6589	7457	8447	13
Systems Integration	2791	3383	3957	4632	5466	6506	7773	9325	18
Software Development	1279	1618	1877	2177	2546	3001	3550	4213	17
Design/Integration	493	633	745	876	1038	1238	1482	1777	19
Project Mgmt/Consulting	365	462	535	620	724	850	1001	1181	17
Software Products	287	304	373	459	571	718	908	1156	24
Education/Training	50	62	74	88	105	128	155	190	20
Operations/Maintenance	51	64	77	92	111	136	168	209	21
Other Services	266	240	276	319	371	434	510	600	16
TOTAL	21446	24271	26740	29437	32630	36428	40763	45731	11

TABLE 4

IBM Forecast With Inflation by Industry Mode (Base 1988 Dollars)

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
INFLATION FACTORS	1.000 1.0000	1.0480 1.048000	1.0520 1.102496	1.0550 1.163133	1.0500 1.221290	1.0450 1.276248	1.0450 1.333679	1.0450 1.393695	
MANUFACTURING									
Professional Services	2552	3081	3533	4026	4614	5331	6169	7140	15
Systems Operations (Proc.)	84	97	116	137	163	196	236	285	19
Systems Integration	309	414	540	701	918	1212	1606	2131	31
Software Development	144	192	251	327	429	566	748	989	31
Design/Integration	59	81	103	131	168	217	280	363	28
Project Mgmt/Consulting	41	55	70	88	112	144	185	237	27
Software Products	29	39	56	80	115	165	239	346	44
Education/Training	8	10	13	17	22	29	37	49	30
Operations/Maintenance	6	9	11	14	18	23	30	39	27
Other Services	21	28	35	43	54	68	85	107	25
TOTAL	2945	3592	4189	4865	5695	6738	8011	9556	17
PROCESS									
Professional Services	1517	1846	2141	2469	2863	3347	3919	4590	16
Systems Operations (Proc.)	200	374	434	502	583	682	799	937	16
Systems Integration	68	88	107	128	155	190	233	287	21
Software Development	31	41	50	60	73	89	109	134	22
Design/Integration	10	14	17	20	24	28	34	42	20
Project Mgmt/Consulting	8	11	13	15	19	23	28	35	21
Software Products	8	10	12	15	18	22	27	33	21
Education/Training	1	1	2	2	3	4	5	7	29
Operations/Maintenance	1	1	2	2	3	4	5	6	32
Other Services	8	10	12	14	17	21	25	30	20
TOTAL	1785	2308	2682	3099	3601	4218	4952	5814	16
COMMUNICATIONS									
Professional Services	510	607	699	800	921	1068	1241	1442	15
Systems Operations (Proc.)	26	35	41	47	54	63	72	84	15
Systems Integration	67	80	94	111	132	159	191	229	19
Software Development	35	41	49	59	71	85	103	125	20
Design/Integration	12	14	16	19	21	25	28	33	15
Project Mgmt/Consulting	11	13	15	17	19	23	26	31	16
Software Products	5	5	6	8	9	11	13	16	20
Education/Training	2	2	2	2	3	4	4	5	24
Operations/Maintenance	1	1	1	1	2	2	3	4	31
Other Services	3	4	5	6	8	10	12	16	27
TOTAL	603	722	834	958	1107	1289	1504	1756	16

TABLE 4 (Con't)

IBM Forecast With Inflation by Industry Mode (Base 1988 Dollars)

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
INFLATION FACTORS	1.000 1.0000	1.0480 1.048000	1.0520 1.102496	1.0550 1.163133	1.0500 1.221290	1.0450 1.276248	1.0450 1.333679	1.0450 1.393695	
COMPUTER SERVICES									
Professional Services	33	37	42	46	51	58	65	73	12
Systems Operations (Proc.)	4	5	5	6	7	8	10	12	17
Systems Integration	6	8	9	11	13	16	20	25	21
Software Development	3	3	4	5	6	7	9	12	26
Design/Integration	1	2	2	2	3	3	4	4	13
Project Mgmt/Consulting	1	1	1	1	2	2	2	2	13
Software Products	0	1	1	1	1	2	3	4	37
Education/Training	0	0	0	0	0	1	1	1	16
Operations/Maintenance	0	0	0	0	0	0	0	0	18
Other Services	1	1	1	1	1	1	1	1	13
TOTAL	44	50	56	63	72	82	94	109	14
CONSULTANT									
Professional Services	5	6	7	7	8	9	10	11	11
Systems Operations (Proc.)	0	0	0	1	1	1	1	1	22
Systems Integration	1	1	1	2	2	2	3	4	22
Software Development	0	0	1	1	1	1	1	2	27
Design/Integration	0	0	0	0	0	0	1	1	14
Project Mgmt/Consulting	0	0	0	0	0	0	0	0	14
Software Products	0	0	0	0	0	0	0	1	38
Education/Training	0	0	0	0	0	0	0	0	18
Operations/Maintenance	0	0	0	0	0	0	0	0	21
Other Services	0	0	0	0	0	0	0	0	16
TOTAL	7	7	8	9	11	12	14	16	14
HEALTH									
Professional Services	402	459	503	549	602	665	736	815	10
Systems Operations (Proc.)	556	642	729	829	946	1090	1257	1448	14
Systems Integration	109	142	176	216	269	337	424	535	24
Software Development	50	64	79	97	120	150	188	236	24
Design/Integration	16	23	29	35	43	54	67	84	24
Project Mgmt/Consulting	14	19	23	27	33	40	49	59	21
Software Products	14	18	23	29	36	45	57	72	25
Education/Training	2	2	2	3	5	7	10	16	43
Operations/Maintenance	1	1	2	3	4	6	10	15	48
Other Services	12	15	18	22	27	34	43	53	24
TOTAL	1067	1243	1407	1594	1817	2092	2417	2799	14

TABLE 4 (Con't)

IBM Forecast With Inflation by Industry Mode (Base 1988 Dollars)

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
INFLATION FACTORS	1.000 1.0000	1.0480 1.048000	1.0520 1.102496	1.0550 1.163133	1.0500 1.221290	1.0450 1.276248	1.0450 1.333679	1.0450 1.393695	
HIGHER EDUCATION									
Professional Services	47	55	62	70	80	92	106	122	14
Systems Operations (Proc.)	53	55	60	65	71	78	86	95	9
Systems Integration	28	37	42	48	55	64	75	89	15
Software Development	12	14	17	20	24	29	35	42	19
Design/Integration	6	8	8	9	10	11	13	14	11
Project Mgmt/Consulting	5	6	6	7	7	8	8	9	6
Software Products	2	3	4	5	7	9	13	17	33
Education/Training	1	2	2	2	2	2	2	2	8
Operations/Maintenance	0	1	1	1	1	1	1	1	0
Other Services	3	4	4	4	4	4	4	4	0
TOTAL	128	147	164	183	206	235	267	305	13
MEDIA									
Professional Services	539	644	737	839	961	1109	1282	1483	15
Systems Operations (Proc.)	22	27	32	38	45	53	63	75	18
Systems Integration	69	88	111	139	177	227	292	378	27
Software Development	33	42	53	67	85	109	141	182	28
Design/Integration	13	17	21	26	32	40	50	62	23
Project Mgmt/Consulting	10	13	15	19	23	28	35	43	22
Software Products	6	7	10	14	19	27	38	54	39
Education/Training	2	2	3	3	4	5	7	9	27
Operations/Maintenance	1	2	2	2	3	4	5	7	27
Other Services	4	6	7	9	11	13	17	21	24
TOTAL	631	760	881	1017	1183	1389	1638	1936	17
SCHOOLS									
Professional Services	17	19	22	25	28	32	37	42	14
Systems Operations (Proc.)	16	16	18	19	21	23	26	29	10
Systems Integration	9	12	13	15	17	20	24	28	15
Software Development	4	4	5	6	8	9	11	13	20
Design/Integration	2	2	3	3	3	4	4	4	11
Project Mgmt/Consulting	1	2	2	2	2	2	3	3	7
Software Products	1	1	1	2	2	3	4	5	33
Education/Training	0	0	1	1	1	1	1	1	9
Operations/Maintenance	0	0	0	0	0	0	0	0	1
Other Services	1	1	1	1	1	1	1	1	1
TOTAL	41	47	53	59	66	76	86	99	13

TABLE 4 (Con't)

IBM Forecast With Inflation by Industry Mode (Base 1988 Dollars)

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
INFLATION FACTORS	1.000 1.0000	1.0480 1.048000	1.0520 1.102496	1.0550 1.163133	1.0500 1.221290	1.0450 1.276248	1.0450 1.333679	1.0450 1.393695	
STATE/LOCAL GOVERNMENT									
Professional Services	1900	2185	2472	2781	3146	3586	4096	4678	13
Systems Operations (Proc.)	550	611	745	905	1104	1358	1674	2062	22
Systems Integration	235	288	351	426	521	643	796	988	23
Software Development	104	127	153	184	223	271	331	404	21
Design/Integration	33	40	52	66	85	111	144	188	29
Project Mgmt/Consulting	35	43	53	65	80	100	125	155	24
Software Products	26	32	41	52	66	85	110	142	28
Education/Training	6	7	8	10	12	15	18	23	21
Operations/Maintenance	5	7	8	10	11	13	16	18	17
Other Services	26	32	35	39	43	47	53	58	10
TOTAL	2685	3084	3568	4111	4771	5587	6566	7729	16
TRANSPORTATION									
Professional Services	143	163	183	204	229	258	292	331	12
Systems Operations (Proc.)	33	39	43	48	53	59	67	75	12
Systems Integration	57	69	79	91	105	122	143	168	16
Software Development	26	31	37	44	52	62	74	88	19
Design/Integration	11	13	15	16	17	19	21	23	10
Project Mgmt/Consulting	11	13	14	15	17	18	20	22	9
Software Products	3	4	5	6	8	9	11	14	23
Education/Training	2	2	2	2	3	3	4	5	19
Operations/Maintenance	1	1	1	1	2	2	2	3	24
Other Services	3	4	5	6	7	9	10	13	20
TOTAL	233	271	305	342	386	440	502	574	13
UTILITIES									
Professional Services	383	422	473	527	591	668	756	856	12
Systems Operations (Proc.)	28	32	36	40	46	54	62	71	14
Systems Integration	94	122	153	189	237	298	377	477	25
Software Development	52	67	85	106	133	169	215	273	26
Design/Integration	13	17	21	25	31	39	48	60	23
Project Mgmt/Consulting	15	20	23	27	31	36	43	50	17
Software Products	5	7	9	11	15	20	27	37	33
Education/Training	2	3	3	4	5	6	7	9	21
Operations/Maintenance	1	1	1	2	2	3	5	6	37
Other Services	7	8	11	14	18	24	32	42	31
TOTAL	506	576	662	757	874	1020	1195	1405	16

TABLE 4 (Con't)

IBM Forecast With Inflation by Industry Mode (Base 1988 Dollars)

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
INFLATION FACTORS	1.000 1.0000	1.0480 1.048000	1.0520 1.102496	1.0550 1.163133	1.0500 1.221290	1.0450 1.276248	1.0450 1.333679	1.0450 1.393695	
WHOLESALE DISTRIBUTION									
Professional Services	387	445	498	554	620	700	791	894	12
Systems Operations (Proc.)	65	74	87	103	122	146	175	209	19
Systems Integration	89	107	128	153	184	224	275	338	21
Software Development	38	46	56	68	83	103	127	159	23
Design/Integration	19	24	28	33	39	46	54	65	17
Project Mgmt/Consulting	14	17	19	23	26	31	37	44	17
Software Products	8	9	11	13	16	20	26	33	23
Education/Training	2	2	2	3	4	5	6	8	26
Operations/Maintenance	1	1	2	2	3	4	5	7	31
Other Services	7	8	10	11	13	16	19	22	18
TOTAL	541	626	714	810	927	1070	1240	1441	15
RETAIL DISTRIBUTION									
Professional Services	512	619	709	808	926	1069	1237	1432	15
Systems Operations (Proc.)	28	34	41	50	60	73	89	109	21
Systems Integration	118	162	219	294	397	543	744	1020	36
Software Development	52	71	97	132	181	249	344	475	37
Design/Integration	24	34	45	60	80	108	146	198	34
Project Mgmt/Consulting	17	24	31	41	55	73	98	131	33
Software Products	12	16	23	32	44	63	89	127	41
Education/Training	3	4	5	7	9	11	15	19	30
Operations/Maintenance	2	2	3	4	6	9	14	21	46
Other Services	8	11	14	18	23	29	38	49	28
TOTAL	659	815	969	1151	1383	1685	2070	2561	20
FINANCE									
Professional Services	1594	1896	2219	2582	3022	3564	4211	4976	17
Systems Operations (Proc.)	990	1168	1345	1539	1772	2056	2390	2778	15
Systems Integration	124	171	225	294	387	514	685	915	32
Software Development	47	65	85	111	145	191	252	333	31
Design/Integration	27	38	50	66	86	115	153	203	32
Project Mgmt/Consulting	22	30	38	48	60	77	97	124	26
Software Products	12	16	23	33	47	68	99	144	44
Education/Training	3	3	5	6	8	11	16	21	35
Operations/Maintenance	2	3	5	6	8	11	15	21	36
Other Services	11	15	19	25	31	40	52	67	28
TOTAL	2708	3235	3789	4415	5181	6134	7286	8669	18

TABLE 4 (Con't)

IBM Forecast With Inflation by Industry Mode
(Base 1988 Dollars)

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
INFLATION FACTORS	1.000 1.0000	1.0480 1.048000	1.0520 1.102496	1.0550 1.163133	1.0500 1.221290	1.0450 1.276248	1.0450 1.333679	1.0450 1.393695	
INSURANCE									
Professional Services	1201	1381	1563	1758	1989	2267	2589	2957	13
Systems Operations (Proc.)	545	616	745	898	1087	1326	1620	1980	21
Systems Integration	84	111	139	173	217	275	351	450	26
Software Development	29	38	47	57	69	85	105	130	23
Design/Integration	18	24	30	38	48	61	77	98	26
Project Mgmt/Consulting	21	28	34	42	52	64	80	99	23
Software Products	8	10	14	19	26	36	51	71	38
Education/Training	2	3	4	5	7	10	14	19	35
Operations/Maintenance	1	1	2	3	4	7	11	17	61
Other Services	5	7	8	9	10	12	14	16	14
TOTAL	1831	2109	2447	2829	3292	3868	4561	5388	17
SECURITIES									
Professional Services	336	400	468	545	639	754	891	1053	17
Systems Operations (Proc.)	211	249	287	328	378	439	510	592	15
Systems Integration	26	36	47	62	81	108	144	192	32
Software Development	10	14	18	23	30	40	53	70	31
Design/Integration	6	8	10	14	18	24	32	43	32
Project Mgmt/Consulting	5	6	8	10	13	16	21	26	27
Software Products	2	3	5	7	10	14	21	30	44
Education/Training	1	1	1	1	2	2	3	4	36
Operations/Maintenance	1	1	1	1	2	2	3	4	36
Other Services	2	3	4	5	7	8	11	14	28
TOTAL	573	685	802	935	1098	1300	1545	1838	18
FEDERAL GOVERNMENT									
Professional Services	2940	3293	3531	3765	4037	4363	4723	5114	7
Systems Operations (Proc.)	222	257	299	344	399	466	547	640	16
Systems Integration	1299	1609	1896	2222	2620	3115	3711	4424	18
Software Development	611	835	967	1114	1290	1507	1762	2061	16
Design/Integration	222	303	364	435	522	632	767	930	20
Project Mgmt/Consulting	134	184	219	259	308	369	443	533	19
Software Products	146	137	165	197	237	288	350	425	21
Education/Training	15	21	25	30	35	42	51	60	19
Operations/Maintenance	26	35	43	51	62	76	93	114	21
Other Services	145	94	114	137	165	201	246	300	21
TOTAL	4461	5159	5726	6331	7057	7944	8982	10178	12

TABLE 4 (Con't)

IBM Forecast With Inflation by Industry Mode (Base 1988 Dollars)

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
INFLATION FACTORS	1.000 1.0000	1.0480 1.048000	1.0520 1.102496	1.0550 1.163133	1.0500 1.221290	1.0450 1.276248	1.0450 1.333679	1.0450 1.393695	
GRAND TOTAL									
Professional Services	15020	17558	19861	22355	25327	28939	33153	38011	14
Systems Operations (Proc.)	3635	4333	5066	5898	6912	8171	9684	11484	17
Systems Integration	2791	3545	4330	5275	6487	8068	10094	12678	23
Software Development	1279	1696	2054	2480	3022	3722	4609	5728	22
Design/Integration	493	663	815	997	1231	1536	1924	2416	24
Project Mgmt/Consulting	365	484	586	707	859	1055	1300	1605	22
Software Products	287	319	408	523	678	890	1179	1571	30
Education/Training	50	65	81	100	125	158	202	258	25
Operations/Maintenance	51	67	84	105	132	169	218	284	26
Other Services	266	251	302	363	440	539	662	815	21
TOTAL	21446	25436	29257	33528	38726	45179	52931	62173	16

TABLE 5

IBM Forecast With Inflation by Submode of Delivery

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
PROFESSIONAL SERVICES									
Consulting	3543	4323	5092	5971	7043	8377	9992	11947	18
Education/Training	1869	2212	2510	2832	3216	3681	4225	4860	14
Software Development	10384	12318	14013	15875	18119	20879	24157	28053	14
Systems Operations (FM)	1462	1680	1864	2067	2319	2642	3032	3443	13
TOTAL PROF. SVCS.	17259	20533	23480	26744	30696	35578	41406	48302	15
Systems Operations (Proc.)	3635	4333	5066	5898	6912	8171	9684	11484	17
Other SI Services	553	570	711	886	1118	1429	1841	2387	26
GRAND TOTAL	21446	25436	29257	33528	38726	45179	52931	62173	16

TABLE 6

IBM Forecast with Inflation by Industry and Submode of Delivery

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
MANUFACTURING									
Professional Services	2552	3081	3533	4026	4614	5331	6169	7140	15
Consulting	551	670	800	943	1130	1362	1627	1948	19
Education/Training	309	355	414	477	556	654	758	883	16
Software Development	1586	1908	2161	2435	2746	3114	3557	4060	13
Systems Operations (FM)	105	148	159	172	182	200	228	249	9
Systems Integration	259	347	449	578	749	978	1281	1678	30
Software Development	144	192	251	327	429	566	748	989	31
Design/Integration	59	81	103	131	168	217	280	363	28
Project Mmgt/kConsulting	41	55	70	88	112	144	185	237	27
Education/Training	8	10	13	17	22	29	37	49	30
Operations/Maintenance	6	9	11	14	18	23	30	39	27
TOTAL PROF. SVCS	2810	3428	3982	4604	5363	6309	7450	8818	17
Systems Operations (Proc.)	84	97	116	137	163	196	236	285	19
SI Software Products	29	39	56	80	115	165	239	346	44
SI Other Services	21	28	35	43	54	68	85	107	25
INDUSTRY TOTAL	2945	3592	4189	4865	5695	6738	8011	9556	17
PROCESS									
Professional Services	1517	1846	2141	2469	2863	3347	3919	4590	16
Consulting	328	402	485	578	701	855	1033	1252	21
Education/Training	184	212	251	292	345	411	482	567	18
Software Development	943	1143	1309	1493	1704	1955	2259	2610	15
Systems Operations (FM)	63	89	96	106	113	126	145	160	10
Systems Integration	52	68	83	99	121	148	181	223	22
Software Development	31	41	50	60	73	89	109	134	22
Design/Integration	10	14	17	20	24	28	34	42	20
Project Mmgt/kConsulting	8	11	13	15	19	23	28	35	21
Education/Training	1	1	2	2	3	4	5	7	29
Operations/Maintenance	1	1	2	2	3	4	5	6	32
TOTAL PROF. SVCS	1569	1914	2223	2568	2984	3494	4101	4813	16
Systems Operations (Proc.)	200	374	434	502	583	682	799	937	16
SI Software Products	8	10	12	15	18	22	27	33	21
SI Other Services	8	10	12	14	17	21	25	30	20
INDUSTRY TOTAL	1785	2308	2682	3099	3601	4218	4952	5814	16

TABLE 6 (Con't)

IBM Forecast with Inflation by Industry and Submode of Delivery

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
COMMUNICATIONS									
Professional Services	510	607	699	800	921	1068	1241	1442	15
Consulting	110	132	158	187	225	273	327	393	20
Education/Training	62	70	82	95	111	131	153	178	17
Software Development	317	376	427	484	548	624	715	820	14
Systems Operations (FM)	21	29	31	34	36	40	46	50	9
Systems Integration	59	71	83	98	116	138	165	197	19
Software Development	35	41	49	59	71	85	103	125	20
Design/Integration	12	14	16	19	21	25	28	33	15
Project Mmgt/kConsulting	11	13	15	17	19	23	26	31	16
Education/Training	2	2	2	2	3	4	4	5	24
Operations/Maintenance	1	1	1	1	2	2	3	4	31
TOTAL PROF. SVCS	569	677	782	898	1036	1206	1406	1640	16
Systems Operations (Proc.)	26	35	41	47	54	63	72	84	15
SI Software Products	5	5	6	8	9	11	13	16	20
SI Other Services	3	4	5	6	8	10	12	16	27
INDUSTRY TOTAL	603	722	834	958	1107	1289	1504	1756	16
COMPUTER SERVICES									
Professional Services	33	37	42	46	51	58	65	73	12
Consulting	7	8	9	11	13	15	17	20	16
Education/Training	4	4	5	5	6	7	8	9	13
Software Development	21	23	25	28	31	34	37	41	10
Systems Operations (FM)	1	2	2	2	2	2	2	3	6
Systems Integration	5	6	8	9	11	13	16	20	20
Software Development	3	3	4	5	6	7	9	12	26
Design/Integration	1	2	2	2	3	3	4	4	13
Project Mmgt/kConsulting	1	1	1	1	2	2	2	2	13
Education/Training	0	0	0	0	0	1	1	1	16
Operations/Maintenance	0	0	0	0	0	0	0	0	18
TOTAL PROF. SVCS	38	44	49	55	62	71	81	92	13
Systems Operations (Proc.)	4	5	5	6	7	8	10	12	17
SI Software Products	0	1	1	1	1	2	3	4	37
SI Other Services	1	1	1	1	1	1	1	1	13
INDUSTRY TOTAL	44	50	56	63	72	82	94	109	14

TABLE 6 (Con't)

IBM Forecast with Inflation by Industry and Submode of Delivery

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
CONSULTANT									
Professional Services	5	6	7	7	8	9	10	11	11
Consulting	1	1	2	2	2	2	3	3	16
Education/Training	1	1	1	1	1	1	1	1	13
Software Development	3	4	4	4	5	5	6	7	10
Systems Operations (FM)	0	0	0	0	0	0	0	0	6
Systems Integration	1	1	1	1	2	2	2	3	21
Software Development	0	0	1	1	1	1	1	2	27
Design/Integration	0	0	0	0	0	0	1	1	14
Project Mmgt/kConsulting	0	0	0	0	0	0	0	0	14
Education/Training	0	0	0	0	0	0	0	0	18
Operations/Maintenance	0	0	0	0	0	0	0	0	21
TOTAL PROF. SVCS	6	7	8	9	10	11	13	14	13
Systems Operations (Proc.)	0	0	0	1	1	1	1	1	22
SI Software Products	0	0	0	0	0	0	0	1	38
SI Other Services	0	0	0	0	0	0	0	0	16
INDUSTRY TOTAL	7	7	8	9	11	12	14	16	14
HEALTH									
Professional Services	402	459	503	549	602	665	736	815	10
Consulting	87	100	114	128	147	170	194	222	14
Education/Training	49	53	59	65	73	82	90	101	11
Software Development	250	284	308	332	358	388	424	464	8
Systems Operations (FM)	17	22	23	23	24	25	27	28	4
Systems Integration	83	109	135	166	205	258	324	410	24
Software Development	50	64	79	97	120	150	188	236	24
Design/Integration	16	23	29	35	43	54	67	84	24
Project Mmgt/kConsulting	14	19	23	27	33	40	49	59	21
Education/Training	2	2	2	3	5	7	10	16	43
Operations/Maintenance	1	1	2	3	4	6	10	15	48
TOTAL PROF. SVCS	485	568	638	714	807	922	1061	1225	13
Systems Operations (Proc.)	556	642	729	829	946	1090	1257	1448	14
SI Software Products	14	18	23	29	36	45	57	72	25
SI Other Services	12	15	18	22	27	34	43	53	24
INDUSTRY TOTAL	1067	1243	1407	1594	1817	2092	2417	2799	14

TABLE 6 (Con't)

IBM Forecast with Inflation by Industry and Submode of Delivery

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
HIGHER EDUCATION									
Professional Services	47	55	62	70	80	92	106	122	14
Consulting	10	12	14	16	20	24	28	33	19
Education/Training	6	6	7	8	10	11	13	15	16
Software Development	29	34	38	43	48	54	61	69	13
Systems Operations (FM)	2	3	3	3	3	3	4	4	8
Systems Integration	23	30	34	39	44	51	59	68	14
Software Development	12	14	17	20	24	29	35	42	19
Design/Integration	6	8	8	9	10	11	13	14	11
Project Mmgt/kConsulting	5	6	6	7	7	8	8	9	6
Education/Training	1	2	2	2	2	2	2	2	8
Operations/Maintenance	0	1	1	1	1	1	1	1	0
TOTAL PROF. SVCS	70	85	97	109	124	143	165	190	14
Systems Operations (Proc.)	53	55	60	65	71	78	86	95	9
SI Software Products	2	3	4	5	7	9	13	17	33
SI Other Services	3	4	4	4	4	4	4	4	0
INDUSTRY TOTAL	128	147	164	183	206	235	267	305	13
MEDIA									
Professional Services	539	644	737	839	961	1109	1282	1483	15
Consulting	117	140	167	197	235	283	338	404	19
Education/Training	65	74	86	99	116	136	158	183	16
Software Development	335	399	451	508	572	648	739	843	13
Systems Operations (FM)	22	31	33	36	38	42	47	52	9
Systems Integration	59	75	94	117	147	186	237	303	26
Software Development	33	42	53	67	85	109	141	182	28
Design/Integration	13	17	21	26	32	40	50	62	23
Project Mmgt/kConsulting	10	13	15	19	23	28	35	43	22
Education/Training	2	2	3	3	4	5	7	9	27
Operations/Maintenance	1	2	2	2	3	4	5	7	27
TOTAL PROF. SVCS	598	719	831	956	1108	1295	1520	1786	16
Systems Operations (Proc.)	22	27	32	38	45	53	63	75	18
SI Software Products	6	7	10	14	19	27	38	54	39
SI Other Services	4	6	7	9	11	13	17	21	24
INDUSTRY TOTAL	631	760	881	1017	1183	1389	1638	1936	17

TABLE 6 (Con't)

IBM Forecast with Inflation by Industry and Submode of Delivery

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
SCHOOLS									
Professional Services	17	19	22	25	28	32	37	42	14
Consulting	4	4	5	6	7	8	10	12	18
Education/Training	2	2	3	3	3	4	5	5	15
Software Development	10	12	13	15	17	19	21	24	12
Systems Operations (FM)	1	1	1	1	1	1	1	1	8
Systems Integration	7	9	11	12	14	16	19	22	14
Software Development	4	4	5	6	8	9	11	13	20
Design/Integration	2	2	3	3	3	4	4	4	11
Project Mmgt/kConsulting	1	2	2	2	2	2	3	3	7
Education/Training	0	0	1	1	1	1	1	1	9
Operations/Maintenance	0	0	0	0	0	0	0	0	1
TOTAL PROF. SVCS	24	29	33	37	42	48	55	64	14
Systems Operations (Proc.)	16	16	18	19	21	23	26	29	10
SI Software Products	1	1	1	2	2	3	4	5	33
SI Other Services	1	1	1	1	1	1	1	1	1
INDUSTRY TOTAL	41	47	53	59	66	76	86	99	13
STATE/LOCAL GOVERNMENT									
Professional Services	1900	2185	2472	2781	3146	3586	4096	4678	13
Consulting	411	475	560	651	770	916	1080	1276	18
Education/Training	230	251	289	329	379	440	503	578	15
Software Development	1181	1353	1512	1682	1872	2095	2361	2661	12
Systems Operations (FM)	78	105	111	119	124	135	151	163	7
Systems Integration	183	224	275	335	412	510	634	788	23
Software Development	104	127	153	184	223	271	331	404	21
Design/Integration	33	40	52	66	85	111	144	188	29
Project Mmgt/kConsulting	35	43	53	65	80	100	125	155	24
Education/Training	6	7	8	10	12	15	18	23	21
Operations/Maintenance	5	7	8	10	11	13	16	18	17
TOTAL PROF. SVCS	2083	2409	2747	3116	3558	4097	4730	5466	14
Systems Operations (Proc.)	550	611	745	905	1104	1358	1674	2062	22
SI Software Products	26	32	41	52	66	85	110	142	28
SI Other Services	26	32	35	39	43	47	53	58	10
INDUSTRY TOTAL	2685	3084	3568	4111	4771	5587	6566	7729	16

TABLE 6 (Con't)

IBM Forecast with Inflation by Industry and Submode of Delivery

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
TRANSPORTATION									
Professional Services	143	163	183	204	229	258	292	331	12
Consulting	31	35	41	48	56	66	77	90	17
Education/Training	17	19	21	24	28	32	36	41	14
Software Development	89	101	112	123	136	151	168	188	11
Systems Operations (FM)	6	8	8	9	9	10	11	12	7
Systems Integration	50	60	69	79	90	104	121	141	15
Software Development	26	31	37	44	52	62	74	88	19
Design/Integration	11	13	15	16	17	19	21	23	10
Project Mmgt/kConsulting	11	13	14	15	17	18	20	22	9
Education/Training	2	2	2	2	3	3	4	5	19
Operations/Maintenance	1	1	1	1	2	2	2	3	24
TOTAL PROF. SVCS	194	224	252	282	319	363	413	472	13
Systems Operations (Proc.)	33	39	43	48	53	59	67	75	12
SI Software Products	3	4	5	6	8	9	11	14	23
SI Other Services	3	4	5	6	7	9	10	13	20
INDUSTRY TOTAL	233	271	305	342	386	440	502	574	13
UTILITIES									
Professional Services	383	422	473	527	591	668	756	856	12
Consulting	83	92	107	123	145	171	199	234	17
Education/Training	46	49	55	62	71	82	93	106	14
Software Development	238	261	289	319	352	390	436	487	11
Systems Operations (FM)	16	20	21	23	23	25	28	30	7
Systems Integration	83	108	133	164	203	254	318	398	24
Software Development	52	67	85	106	133	169	215	273	26
Design/Integration	13	17	21	25	31	39	48	60	23
Project Mmgt/kConsulting	15	20	23	27	31	36	43	50	17
Education/Training	2	3	3	4	5	6	7	9	21
Operations/Maintenance	1	1	1	2	2	3	5	6	37
TOTAL PROF. SVCS	467	529	606	691	794	922	1074	1255	15
Systems Operations (Proc.)	28	32	36	40	46	54	62	71	14
SI Software Products	5	7	9	11	15	20	27	37	33
SI Other Services	7	8	11	14	18	24	32	42	31
INDUSTRY TOTAL	506	576	662	757	874	1020	1195	1405	16

TABLE 6 (Con't)

IBM Forecast with Inflation by Industry and Submode of Delivery

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
WHOLESALE DISTRIBUTION									
Professional Services	387	445	498	554	620	700	791	894	12
Consulting	84	97	113	130	152	179	209	244	17
Education/Training	47	51	58	66	75	86	97	111	14
Software Development	240	275	304	335	369	409	456	508	11
Systems Operations (FM)	16	21	22	24	25	26	29	31	6
Systems Integration	74	90	108	129	155	188	230	283	21
Software Development	38	46	56	68	83	103	127	159	23
Design/Integration	19	24	28	33	39	46	54	65	17
Project Mmgt/kConsulting	14	17	19	23	26	31	37	44	17
Education/Training	2	2	2	3	4	5	6	8	26
Operations/Maintenance	1	1	2	2	3	4	5	7	31
TOTAL PROF. SVCS	461	535	606	683	775	888	1021	1177	14
Systems Operations (Proc.)	65	74	87	103	122	146	175	209	19
SI Software Products	8	9	11	13	16	20	26	33	23
SI Other Services	7	8	10	11	13	16	19	22	18
INDUSTRY TOTAL	541	626	714	810	927	1070	1240	1441	15
RETAIL DISTRIBUTION									
Professional Services	512	619	709	808	926	1069	1237	1432	15
Consulting	111	135	161	189	227	273	326	391	19
Education/Training	62	71	83	96	112	131	152	177	16
Software Development	318	383	434	489	551	625	713	814	13
Systems Operations (FM)	21	30	32	35	37	40	46	50	9
Systems Integration	98	135	182	244	330	450	616	845	36
Software Development	52	71	97	132	181	249	344	475	37
Design/Integration	24	34	45	60	80	108	146	198	34
Project Mmgt/kConsulting	17	24	31	41	55	73	98	131	33
Education/Training	3	4	5	7	9	11	15	19	30
Operations/Maintenance	2	2	3	4	6	9	14	21	46
TOTAL PROF. SVCS	610	754	891	1052	1256	1520	1854	2276	20
Systems Operations (Proc.)	28	34	41	50	60	73	89	109	21
SI Software Products	12	16	23	32	44	63	89	127	41
SI Other Services	8	11	14	18	23	29	38	49	28
INDUSTRY TOTAL	659	815	969	1151	1383	1685	2070	2561	20

TABLE 6 (Con't)

IBM Forecast with Inflation by Industry and Submode of Delivery

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
FINANCE									
Professional Services	1594	1896	2219	2582	3022	3564	4211	4976	17
Consulting	344	412	503	604	740	910	1110	1357	22
Education/Training	193	218	260	306	364	437	518	615	19
Software Development	991	1174	1357	1561	1798	2082	2428	2830	16
Systems Operations (FM)	66	91	100	110	119	134	155	174	11
Systems Integration	101	140	183	236	308	405	534	703	31
Software Development	47	65	85	111	145	191	252	333	31
Design/Integration	27	38	50	66	86	115	153	203	32
Project Mmgt/kConsulting	22	30	38	48	60	77	97	124	26
Education/Training	3	3	5	6	8	11	16	21	35
Operations/Maintenance	2	3	5	6	8	11	15	21	36
TOTAL PROF. SVCS	1695	2036	2401	2818	3330	3969	4745	5679	18
Systems Operations (Proc.)	990	1168	1345	1539	1772	2056	2390	2778	15
SI Software Products	12	16	23	33	47	68	99	144	44
SI Other Services	11	15	19	25	31	40	52	67	28
INDUSTRY TOTAL	2708	3235	3789	4415	5181	6134	7286	8669	18
INSURANCE									
Professional Services	1201	1381	1563	1758	1989	2267	2589	2957	13
Consulting	260	301	354	412	487	579	683	807	18
Education/Training	146	159	183	208	240	278	318	366	15
Software Development	746	855	956	1063	1183	1324	1493	1682	12
Systems Operations (FM)	50	67	70	75	79	85	96	103	7
Systems Integration	71	94	117	145	180	227	287	363	25
Software Development	29	38	47	57	69	85	105	130	23
Design/Integration	18	24	30	38	48	61	77	98	26
Project Mmgt/kConsulting	21	28	34	42	52	64	80	99	23
Education/Training	2	3	4	5	7	10	14	19	35
Operations/Maintenance	1	1	2	3	4	7	11	17	61
TOTAL PROF. SVCS	1272	1476	1680	1903	2169	2494	2876	3321	14
Systems Operations (Proc.)	545	616	745	898	1087	1326	1620	1980	21
SI Software Products	8	10	14	19	26	36	51	71	38
SI Other Services	5	7	8	9	10	12	14	16	14
INDUSTRY TOTAL	1831	2109	2447	2829	3292	3868	4561	5388	17

TABLE 6 (Con't)

IBM Forecast with Inflation by Industry and Submode of Delivery

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
SECURITIES									
Professional Services	336	400	468	545	639	754	891	1053	17
Consulting	73	87	106	128	156	193	235	287	22
Education/Training	41	46	55	65	77	93	110	130	19
Software Development	209	248	286	330	380	440	514	599	16
Systems Operations (FM)	14	19	21	23	25	28	33	37	11
Systems Integration	21	29	38	49	65	85	112	148	31
Software Development	10	14	18	23	30	40	53	70	31
Design/Integration	6	8	10	14	18	24	32	43	32
Project Mmgt/kConsulting	5	6	8	10	13	16	21	26	27
Education/Training	1	1	1	1	2	2	3	4	36
Operations/Maintenance	1	1	1	1	2	2	3	4	36
TOTAL PROF. SVCS	357	429	507	595	703	839	1003	1201	19
Systems Operations (Proc.)	211	249	287	328	378	439	510	592	15
SI Software Products	2	3	5	7	10	14	21	30	44
SI Other Services	2	3	4	5	7	8	11	14	28
INDUSTRY TOTAL	573	685	802	935	1098	1300	1545	1838	18
FEDERAL GOVERNMENT									
Professional Services	2940	3293	3531	3765	4037	4363	4723	5114	7
Consulting	405	517	539	583	565	537	561	571	2
Education/Training	355	506	518	532	524	506	529	535	1
Software Development	1267	1345	1427	1483	1603	1770	1869	1998	7
Systems Operations (FM)	912	926	1047	1166	1346	1549	1765	2010	14
Systems Integration	1009	1378	1617	1888	2218	2626	3116	3698	18
Software Development	611	835	967	1114	1290	1507	1762	2061	16
Design/Integration	222	303	364	435	522	632	767	930	20
Project Mmgt/kConsulting	134	184	219	259	308	369	443	533	19
Education/Training	15	21	25	30	35	42	51	60	19
Operations/Maintenance	26	35	43	51	62	76	93	114	21
TOTAL PROF. SVCS	3948	4671	5149	5653	6255	6989	7839	8812	11
Systems Operations (Proc.)	222	257	299	344	399	466	547	640	16
SI Software Products	146	137	165	197	237	288	350	425	21
SI Other Services	145	94	114	137	165	201	246	300	21
INDUSTRY TOTAL	4461	5159	5726	6331	7057	7944	8982	10178	12

TABLE 6 (Con't)

IBM Forecast with Inflation by Industry and Submode of Delivery

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
GRAND TOTAL									
Professional Services	15020	17558	19861	22355	25327	28939	33153	38011	14
Consulting	3016	3620	4238	4935	5777	6816	8058	9544	17
Education/Training	1819	2147	2430	2732	3091	3522	4023	4602	13
Software Development	8774	10178	11414	12726	14272	16128	18259	20707	12
Systems Operations (FM)	1411	1613	1780	1962	2187	2473	2814	3159	12
Systems Integration	2239	2975	3619	4389	5369	6639	8252	10291	23
Software Development	1279	1696	2054	2480	3022	3722	4609	5728	22
Design/Integration	493	663	815	997	1231	1536	1924	2416	24
Project Mmgt/kConsulting	365	484	586	707	859	1055	1300	1605	22
Education/Training	50	65	81	100	125	158	202	258	25
Operations/Maintenance	51	68	84	105	132	169	218	284	26
TOTAL PROF. SVCS	17259	20533	23480	26744	30696	35578	41406	48302	15
Systems Operations (Proc.)	3635	4333	5066	5898	6912	8171	9684	11484	17
SI Software Products	287	319	408	523	678	890	1179	1571	30
SI Other Services	266	251	302	363	440	539	662	815	21
Grand Total All Industries	21446	25436	29257	33528	38726	45179	52931	62173	16

TABLE 7

IBM Forecast with Inflation by Industry and Submode of Delivery

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
INDUSTRIAL									
Professional Services	4069	4927	5674	6495	7478	8677	10088	11730	15
Consulting	879	1072	1285	1520	1831	2217	2660	3200	20
Education/Training	493	567	664	769	902	1065	1240	1450	17
Software Development	2528	3051	3470	3928	4450	5069	5816	6671	14
Systems Operations (FM)	168	237	255	278	295	326	372	409	9
Systems Integration	311	415	531	677	870	1126	1462	1901	29
Software Development	175	233	301	387	501	655	857	1124	30
Design/Integration	70	95	120	151	191	245	315	405	27
Project Mmgt/kConsulting	49	66	83	104	131	167	213	272	26
Education/Training	9	11	15	19	25	32	43	56	30
Operations/Maintenance	8	10	13	16	21	27	35	45	28
TOTAL PROF. SVCS	4379	5342	6205	7173	8347	9804	11551	13631	17
Systems Operations (Proc.)	285	471	550	638	746	878	1036	1222	17
SI Software Products	37	49	68	95	132	187	266	379	40
SI Other Services	29	38	47	58	71	88	110	138	24
SECTOR TOTAL	4730	5901	6871	7963	9297	10957	12963	15369	17
ACADEMIC,GENERAL & PUBLIC									
Professional Services	3981	4597	5199	5848	6616	7545	8622	9855	13
Consulting	860	1000	1178	1369	1620	1928	2274	2688	18
Education/Training	482	529	609	692	798	926	1060	1218	15
Software Development	2474	2846	3180	3537	3938	4408	4971	5604	12
Systems Operations (FM)	164	222	233	250	261	284	318	344	8
Systems Integration	554	694	842	1019	1243	1532	1895	2349	22
Software Development	318	394	483	589	722	893	1108	1375	23
Design/Integration	107	137	166	202	247	305	380	474	23
Project Mgmt/Consulting	103	129	153	180	214	257	310	375	19
Education/Training	16	19	23	28	35	44	55	70	24
Operations/Maintenance	10	14	17	20	25	32	42	55	25
TOTAL PROF. SVCS	4535	5290	6041	6867	7860	9077	10517	12204	15
Systems Operations (Proc.)	1288	1463	1710	1997	2348	2788	3317	3952	18
SI Software Products	62	79	100	128	163	212	275	359	29
SI Other Services	59	74	87	101	120	143	173	210	18
SECTOR TOTAL	5944	6906	7939	9093	10491	12219	14282	16725	16

TABLE 7 (Con't)

IBM Forecast with Inflation by Industry and Submode of Delivery

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
SERVICES									
Professional Services	4031	4741	5457	6247	7195	8354	9720	11313	15
Consulting	871	1031	1236	1462	1762	2134	2563	3086	20
Education/Training	489	546	639	739	868	1025	1194	1399	17
Software Development	2505	2935	3337	3778	4282	4880	5604	6434	14
Systems Operations (FM)	166	228	245	267	284	314	359	395	9
Systems Integration	365	489	627	804	1038	1356	1779	2342	29
Software Development	176	234	303	390	508	668	882	1168	30
Design/Integration	94	128	165	210	271	354	463	607	29
Project Mmgt/kConsulting	79	105	131	164	206	261	333	425	26
Education/Training	10	13	17	23	30	40	53	71	32
Operations/Maintenance	7	9	12	17	23	33	49	71	42
TOTAL PROF. SVCS	4396	5229	6084	7051	8233	9709	11499	13655	17
Systems Operations (Proc.)	1840	2141	2507	2918	3419	4040	4784	5669	17
SI Software Products	42	54	75	104	144	203	286	405	39
SI Other Services	33	44	55	68	84	106	133	168	25
SECTOR TOTAL	6311	7470	8721	10140	11881	14057	16702	19897	17
FEDERAL GOVERNMENT									
Professional Services	2940	3293	3531	3765	4037	4363	4723	5114	7
Consulting	405	517	539	583	565	537	561	571	2
Education/Training	355	506	518	532	524	506	529	535	1
Software Development	1267	1345	1427	1483	1603	1770	1869	1998	7
Systems Operations (FM)	912	926	1047	1166	1346	1549	1765	2010	14
Systems Integration	1009	1378	1617	1888	2218	2626	3116	3698	18
Software Development	611	835	967	1114	1290	1507	1762	2061	16
Design/Integration	222	303	364	435	522	632	767	930	20
Project Mmgt/kConsulting	134	184	219	259	308	369	443	533	19
Education/Training	15	21	25	30	35	42	51	60	19
Operations/Maintenance	26	35	43	51	62	76	93	114	21
TOTAL PROF. SVCS	3948	4671	5149	5653	6255	6989	7839	8812	11
Systems Operations (Proc.)	222	257	299	344	399	466	547	640	16
SI Software Products	146	137	165	197	237	288	350	425	21
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SECTOR TOTAL	4461	5159	5726	6331	7057	7944	8982	10178	12

TABLE 7 (Con't)

IBM Forecast with Inflation by Industry and Submode of Delivery

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
ALL SECTORS									
Professional Services	15020	17558	19861	22355	25327	28939	33153	38011	14
Consulting	3016	3620	4238	4935	5777	6816	8058	9544	17
Education/Training	1819	2147	2430	2732	3091	3522	4023	4602	13
Software Development	8774	10178	11414	12726	14272	16128	18259	20707	12
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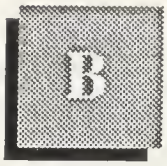
Systems Integration	2238	2975	3619	4389	5369	6639	8252	10291	23
Software Development	1279	1696	2054	2480	3022	3722	4609	5728	22
Design/Integration	493	663	815	997	1231	1536	1924	2416	24
Project Mmgt/kConsulting	365	484	586	707	859	1055	1300	1605	22
Education/Training	50	65	80	100	125	158	201	258	25
Operations/Maintenance	51	68	84	105	132	169	218	284	26
TOTAL PROF. SVCS	17258	20533	23480	26744	30695	35578	41406	48302	15
Systems Operations (Proc.)	3635	4333	5066	5898	6912	8171	9684	11484	17
SI Software Products	287	319	408	523	677	889	1178	1569	30
SI Other Services	266	251	302	363	440	539	662	815	21
Grand Total All Sectors	21446	25436	29256	33528	38725	45177	52929	62170	16

TABLE 8

IBM Forecast with Inflation by Industry Group

SEGMENTATION	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	CAGR 89-94 (%)
Industrial	4730	5901	6871	7963	9297	10957	12963	15369	17
Academic, General & Public	5944	6906	7939	9093	10491	12219	14282	16725	16
Services	6311	7470	8721	10140	11881	14057	16702	19897	17
Federal Government	4461	5159	5726	6331	7057	7944	8982	10178	12
ALL SECTORS	21446	25436	29256	33528	38725	45177	52929	62170	16

Forecast Reconciliation



Appendix: Forecast Reconciliation

A

Reconciliation of Professional Services Industry

The 1988 report forecast a 1988 professional services industry totalling $15,060 million. Actual 1988 professional services industry size was $15,020 million, a difference of only 0.3%.

The five-year growth rate changed from 17% to 14%, reflecting the following trends:

- Significantly slower economic growth in the forecast period (approximately 1% of GNP)
- A more mature market
- A small shift in consulting and software development toward systems-integration-based services

B

Reconciliation of Systems Integration Market

The systems integration markets, both commercial and federal, saw a variety of forces affect the rates of growth since the 1988 INPUT forecast. In the forecasts for 1988, 14 vertical industries did not change in their view of the 1988 market from the 1988 forecast. In 1993, most of these industries will vary from the 1988 view by much more than 3% for factors that will be common to most of the market. The most frequently mentioned changes are slower growth of the economy, government fiscal restraint, ripple effects of the expected reduction in defense outlays, increased competition from Europe and the Pacific Rim, and narrowing margins in most commercial sectors.

C

Reconciliation of Systems Operations Market

Though the overall processing services growth rate remains essentially unchanged, the market for systems operations services has grown faster than INPUT projected last year and this growth is expected to accelerate over the next five years. INPUT has raised its estimate of the market growth rate from 14% per year to 18% between now and 1993.

One reason for this increase is a move away from traditional short-term transaction processing contracts to long-term contracts, which are defined as systems operations. Accompanying this move is a shift away from ad hoc processing services toward more integrated processing of a firm's suite of applications. This shift requires the kind of long-term commitment that is the basis of the systems operations business.

D

Reconciliation of Professional Services Market by Delivery Mode

The data discussed in this section can be found in the report *U.S. Professional Services Markets*. The data is brought into this report because many of the points bear on the data found in this report.

1. Consulting

In 1988, INPUT forecast the size of the 1988 consulting submode at $3,120 million, compared with the actual 1988 figure of $3,020 (an actual growth rate of only 20%).

The primary reason for the slower growth is the impact of systems integration on professional services, a trend identified by INPUT in an August 1988 report. Consulting services are sometimes provided by systems integration vendors as part of the SI process. The effect was to lessen reported consulting revenues under the professional services delivery mode by $70 million.

The five-year forecast growth rate for consulting slowed from 21% to 18% because of the following factors:

- Shifting of consulting services as part of systems integration and systems operations projects, rather than as standalone professional services projects
- Expected impact of an overall shortage of skilled information services and systems professionals due, in part, to the lower birth rates of the 1960s and 1970s
- Expected crowding of the market and lack of vendor service differentiation, resulting in increased price competition and decreased delivery mode revenues

2. Education and Training

In 1988, the education and training submode grew only 11% to $1,819 million, compared with a forecast growth of 20% and market in 1988 of $1,960 million.

The slower growth can be attributed to the following factors:

- More education and training services were delivered as part of a systems integration project than was forecast in 1987.
- Improved embedded education and training function and built-in help functionality (including graphic user interfaces) meant less formal training than had been expected.
- Few new major application and systems software products were announced in 1988.

The education and training forecast growth rate will decrease from 19% to 15% due to:

- The shift from professional-services-based education and training to systems-integration-based education and training
- Computer-based training replacing some customized training
- The tightening user organization budgets that are forcing IS-related education and training expenses to be cut or deferred
- Dramatically slower employment growth in IS staffs

3. Software Development

The 1987 to 1988 forecast growth rate for software development was 17%. The actual growth rate was 16%.

The five-year forecast growth rate for software development decreased from 16% to 14%. The prime inhibiting factor is the slower economic growth forecast for the next five years.

4. Systems Operations

The 1988 user expenditures for professional services systems operations exceeded the estimate by $253 million for the following reasons:

- Greater spending than expected by the federal and state and local governments for systems operations
- Surveys conducted by INPUT in 1989 identified more user expenditures and vendor revenues than previously reported

The five-year forecast growth rate for systems operations remains unchanged at 12% per year.

E

Reconciliation by Industry Sector

1. Reported Industry Sector Revenues in 1988

The differences between INPUT's 1988 forecast of the size of each industry sector in professional services and actual figures for 1988 are minor. The variances, which occurred in four of 15 industry sectors, are within acceptable margins of error. The actual data is found in the table following this text.

2. Industry Sector Forecasts

Forecast growth rates for all 15 industry sectors changed. However, the slower economic growth rate affects every industry sector. Only sectors that had additional factors to consider are discussed here.

a. Discrete Manufacturing

The growth rate slowed from 19% to 17% due to the following factors:

- A decline in the rate of replacement of batch-oriented systems because the majority have converted to on-line environments
- A slowdown in MAP/TOP implementations
- The shift from professional services engagements to systems integration projects in networks, manufacturing resource planning (MRP II), and accounting applications

b. Process Manufacturing

INPUT reduced the forecast growth rate in process manufacturing from 22% to 18% because of:

- The effects of business cycles and eroding gross profit margins on IS spending in three key process manufacturing SICs—petroleum, chemicals, and primary metals

- Some changing from professional services engagements to systems integration projects in real-time computing and integration of the manufacturing environment

- The negative effects of process manufacturing mergers and acquisitions on overall IS expenditures

c. Transportation

This sector's five-year forecast growth rate will decrease from 17% to 13% as a result of:

- Consolidation into fewer information systems due to mergers and acquisitions

- Increased price competition, with slowed revenue growth resulting in decreased IS expenditures, especially in air and trucking transportation

d. Wholesale Distribution

The forecast growth rate for wholesale distribution decreased from 17% to 14% due to the following factors:

- Expected slowing of professional services projects by midsize and small wholesale firms

- The shift by large wholesale organizations from professional services to systems integration projects, especially ones involving EDI and data communications

e. Retail Distribution

The forecast growth rate in professional services for retail distribution decreased from 19% to 16% due to the following:

- Increased saving by consumers, thus reducing disposable income for retail purchases and lowering profits for retailers and the funds available for professional services

- In an effort to identify product winners and losers quickly, aggressive shifts by retailers of all sizes toward more-specific systems integration projects, especially ones involving EDI, bar codes, scanners, networking and other new technologies

f. Insurance

The forecast growth rate in professional services for the insurance sector decreased from 17% to 14% due to the shift from professional services to systems integration of projects related to electronic claims processing, catastrophic health care, and networks between agents and insurers.

g. Medical

The growth rate in professional services for the medical sector decreased from 18% to 11%, primarily due to a slowing of expenditures in all delivery modes except network services and systems integration as organizations (hospitals, HMOs, group physician/dental practices, and nursing homes) pause to catch up with changing federal reporting requirements and the impacts of mergers and acquisitions. Intense cost pressures are affecting the hospital environment.

h. Services

The forecast growth rate in professional services for the services sector decreased from 17% to 12% due to the replacement, not upgrading, of systems by small business services firms, which results in less demand for education and training, software development, and consulting than when systems were first installed.

i. Federal Government

The forecast growth rate in professional services for the federal government sector decreased from 11% to 9% due to the following factors:

- Continuing budget tightening
- Shifting projects from professional services (out of operations and maintenance funds) to systems integration (long-term projects and from a budget authorized by Congress for a specific project)
- Reduced discretionary Defense Department expenditures

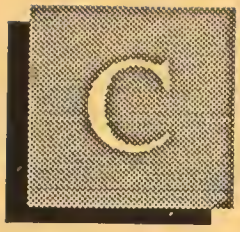
j. State and Local Government

The forecast growth rate in professional services for the state and local government sector decreased from 19% to 14% due primarily to the shift from ad hoc professional services jobs to longer term, specific systems integration projects; tighter IS budgets, following increased expenditures for computer systems and services during the past two years; and better retention of IS people by governments as the computer systems and information services business slows.

k. Other Industry Sector

The forecast growth rate in professional services for the other industry sector decreased from 16% to 12% due to the following factors:

- Slowing IS expenditures in construction and the hotel/motel industry due to a slower economy
- Shifting expenditures from general professional services tasks to specific systems integration projects



Appendix: INPUT-defined Industry Sectors

C

Appendix: INPUT-defined Industry Sectors

EXHIBIT C-1

Industry Sector Definitions

Industry Sector	Industry SIC	Industry Name
Discrete Manufacturing	23	Apparel Manufacturing
	25	Furniture Manufacturing
	27	Printing, Publishing
	31	Leather
	34	Fabricated Metal
	35	Machinery/Computer Equipment
	36	Electronic Equipment
	37	Transportation Equipment
	38	Scientific and Control Instruments
	39	Miscellaneous Manufacturing
Process Manufacturing	10	Metal Mining
	12	Coal Mining
	13	Oil and Gas Extraction
	14	Mining/Quarrying of Non-Metallic Minerals, except Fuels
	20	Food Products
	21	Tobacco
	22	Textile Products
	24	Lumber and Wood Products
	26	Paper Products
	28	Chemicals
	29	Petroleum
	30	Rubber and Plastics
	32	Stone, Glass, Clay
	33	Primary Metals
Transportation	40	Railroads
	41	Local Transit
	42	Motor Freight
	43	U.S. Postal Service
	44	Water Transportation
	45	Air Transportation
	46	Pipelines
	47	Transportation Services

EXHIBIT C-1 (Cont.)

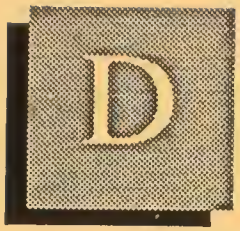
Industry Sector Definitions

Industry Sector	Industry SIC	Industry Name
Utilities	49	Electric, Gas, and Sanitary
Communications	48	Telephone Communications, Radio and TV Broadcasting, Cable and Other Pay Television Services, Communications Services
Wholesale Distribution	50	Durable Goods
	51	Nondurable Goods
Retail Distribution	52	Building Materials, Hardware
	53	General Merchandise
	54	Food Stores
	55	Automotive and Gas Stations
	56	Apparel Distribution
	57	Furniture Distribution
	58	Eating and Drinking
	59	Miscellaneous Retail
Banking and Finance	60	Banks, Thrifts, and Credit Unions
	61	Non-depository Credit, Mortgage Banking
	62	Security and Commodity Brokers
	67	Holding and Investment Offices
Insurance	63	Insurance Carriers (Life, Health, etc.)
	64	Insurance Brokers and Agents
Medical	80	Health Services
Education	82	Educational Services

EXHIBIT C-1 (Cont.)

Industry Sector Definitions

Industry Sector	Industry SIC	Industry Name
Services	65	Real Estate Operators, Owners, Lessors, Agents, and Brokers
	70	Hotels, Rooming Houses, Camps, and Other Lodging Places
	72	Personal Services
	73	Business Services
	75	Automotive Repair, Services, and Parking
	76	Miscellaneous Repair Services
	78	Motion Pictures
	79	Amusement and Recreation Services
	80	Health Services
	81	Legal Services
	83	Social Services
	84	Museums, Art Galleries, and Botanical and Zoological Gardens
	86	Membership Organizations
	87	Engineering, Accounting, Research, Management, and Related Services
	88	Private Households
	89	Miscellaneous Services
Other Industries	01-09	Agriculture, Forestry, And Fishing
	15-17	Construction
Federal Government	N/A	As Appropriate
State And Local Government	N/A	As Appropriate



IBM-defined Industry Sectors

IBM INDUSTRY DEPARTMENTS AND CLASSES

1990 AGGREGATIONS

INDUSTRY	CLASS	IBM CLASS CODE
COMMUNICATIONS	AT&T & OTHER COMM. COMPANIES	A1, A2, A3
	COMMON CARRIERS, CATV & MISC.	A4, A5
COMPUTER SERVICERS	SERVICE BUREAUS & SOFTWARE FIRMS	ALL B
CONSULTANTS	MANAGEMENT CONSULTANTS	C1
	CPA FIRMS, PUBLIC ACCOUNTANTS	C2
	LEGAL FIRMS	C3
RETAIL	APPAREL MANUFACTURERS	DA
	GENERAL MERCHANDISE RETAILERS	D1
	FOOD & DRUG RETAILERS	D2
HIGHER EDUCATION	COLLEGES, UNIVERSITIES, MISC.	ALL E
FINANCE	REAL ESTATE	FX
	COMMERCIAL BANKS	F1, F2
	CREDIT UNIONS & OTHER FIN.	F3, F5
	SAVINGS & LOANS	F4
STATE & LOCAL GOVT.	STATE GOVERNMENT	G1
	LOCAL GOVERNMENT	G2, G3, G4
MEDICAL	SHORT TERM CARE	H1
	LONG TERM CARE	H2
	OTHER MEDICAL	H3, H4, H6, H7, H8, H9
WHOLESALE & SVCS.	AUTO/MOTOR VEHICLE - DEALERS, PARTS, REPAIR	J2
	NON-DURABLE GOODS WHOLESALERS	J3
	DURABLE GOODS WHOLESALERS	J4
	LODGING SERVICES	J7
	OTHER SERVICES, RESIDENTIAL	J5, J6, J8, J9
MEDIA	NEWSPAPER, BOOK, MAGAZINE PUBLISHING	K1, K2, K3
	BROADCASTING & ENTERTAINMENT	K4, K7, K9
	PRINTING, ADVERTISING, MISC.	K5, K6, K8
MANUFACTURING	AEROSPACE	MA
	CONSTRUCTION	M1
	MOTOR VEHICLES	M2
	OTHER MANUFACTURING	M3, M5

1133-041

IBM INDUSTRY DEPARTMENTS AND CLASSES

1990 AGGREGATIONS (CONT'D.)

INDUSTRY	CLASS	IBM CLASS CODE
INSURANCE	LIFE INSURANCE CARRIERS	N1
	PROPERTY & LIABILITY	N2
	MEDICAL	N3
	AGENTS, BROKERS, OTHER	N4, N5
PROCESS	METALS, MINERALS, FOREST PRODUCTS, MINING	P1, P2, P3, P9
	TEXTILES	P4
	PHARMACEUTICALS, CONSUMER GOODS & AGRIBUSINESS, CHEMICALS	P5, P6, P8
	PETROLEUM	P7
SCHOOLS	ELEMENTARY, SECONDARY SCHOOLS, ETC.	ALL R
SECURITIES	BROKERS/DEALERS	S1
	EXCHANGES, INVESTMENTS	S2, S3
TRANSPORTATION	MOTOR FREIGHT	T2
	AIRLINES	T7, TE
	RAILROADS	T3, T8
	AUTO & TRUCK RENTAL	TA, TC
	OTHER TRANSPORTATION	TB, TD, T1, T4, T5, T6
UTILITIES	NON-GOVERNMENT UTILITIES	U1, U2, U3, U4, U6, U7
	GOVERNMENT UTILITIES	U5
FEDERAL	EXECUTIVE, LEGISLATIVE, JUDICIAL	ALL Y

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
A1			MEDIUM/SMALL TELEPHONE COMPANIES
	1000		MEDIUM / SMALL TELEPHONE COMPANIES
		4813	MEDIUM / SMALL TELEPHONE COMPANIES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
A2			AMERICAN TELEPHONE AND TELEGRAPH
	2000		AMERICAN TELEPHONE AND TELEGRAPH
		481A	AMERICAN TELEPHONE AND TELEGRAPH (AT&T)
	9987		LEASING CO. USER - NOT IBM CUSTOMER
A3			LARGE TELEPHONE COMPANIES
	3000		LARGE TELEPHONE COMPANIES
		481B	LARGE TELEPHONE COMPANIES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
A4			COMMON CARRIERS
	2000		COMMON CARRIERS
		4822	COMMON CARRIERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
A5			CABLE TV AND MISCELLANEOUS COMPANIES
	9900		MISCELLANEOUS COMMUNICATIONS
		4812	RADIOTELEPHONE COMMUNICATIONS
		4841	CABLE AND OTHER PAY TV SERVICES
		4899	COMMUNICATION SERVICES, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
BC			CONSULTANTS - COMPUTER SERVICERS
	8010		CONSULTANTS/COMPUTER SERVICERS
		738C	CONSULTANTS - COMPUTER SERVICERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
BD			DISTRIBUTION - COMPUTER SERVICERS
	8020		DISTRIBUTION - COMPUTER SERVICERS
		738D	DISTRIBUTION - COMPUTER SERVICERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
BE			HIGHER EDUCATION - COMPUTER SERVICERS
	8030		EDUCATION - COMPUTER SERVICERS
		738E	EDUCATION - COMPUTER SERVICERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
BF			FINANCE/SECURITIES - COMPUTER SERVICERS
	8040		FINANCE/SECURITIES - COMPUTER SERVICERS
		738F	FINANCE/SECURITIES - COMPUTER SERVICERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
BG			STATE AND LOCAL - COMPUTER SERVICERS
	8050		STATE AND LOCAL - COMPUTER SERVICERS
		738G	STATE AND LOCAL - COMPUTER SERVICERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
BH			MEDICAL - COMPUTER SERVICERS
	8060		MEDICAL - COMPUTER SERVICERS
		738H	MEDICAL - COMPUTER SERVICERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
BK			MEDIA - COMPUTER SERVICERS
	8070		MEDIA - COMPUTER SERVICERS
		738K	MEDIA - COMPUTER SERVICERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
BM			MANUFACTURING - COMPUTER SERVICERS
	8080		MANUFACTURING - COMPUTER SERVICERS
		738M	MANUFACTURING - COMPUTER SERVICERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
BN			INSURANCE - COMPUTER SERVICERS
	8090		INSURANCE - COMPUTER SERVICERS
		738N	INSURANCE - COMPUTER SERVICERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
BP			PROCESS - COMPUTER SERVICERS
	8100		PROCESS - COMPUTER SERVICERS
		738P	PROCESS - COMPUTER SERVICERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
BR			POINT OF SALE VALUE ADDED DISTRIBUTORS
	2300		POINT OF SALE VALUE ADDED DISTRIBUTORS
		737R	POINT OF SALE VALUE ADDED DISTRIBUTORS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
BT			TRANSPORTATION - COMPUTER SERVICERS
	8110		TRANSPORTATION - COMPUTER SERVICERS
		738T	TRANSPORTATION - COMPUTER SERVICERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
BU			PUBLIC UTILITIES - COMPUTER SERVICERS
	8120		PUBLIC UTILITIES - COMPUTER SERVICERS
		738U	PUBLIC UTILITIES - COMPUTER SERVICERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
BY			FEDERAL - COMPUTER SERVICERS
	8130		FEDERAL - COMPUTER SERVICERS
		738Y	FEDERAL - COMPUTER SERVICERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
B1			SERVICE BUREAUS
	1000		SERVICE BUREAUS
		7374	DATA PROCESSING AND PREPARATION
	9987		LEASING CO. USER - NOT IBM CUSTOMER
B2			INFORMATION SYSTEMS CONSULTANTS
	2000		DP CONSULTING COMPANIES
		7379	COMPUTER CONSULTANTS AND RELATED SERVICES, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
B3			DP EDUCATION FIRMS
	3000		DP EDUCATION FIRMS
		8243	DATA PROCESSING EDUCATION FIRMS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
B4			REMOTE COMPUTING SERVICERS
	4000		REMOTE COMPUTING SERVICERS
		737B	REMOTE COMPUTING SERVICERS
		7375	INFORMATION RETRIEVAL SERVICES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
B5			SYSTEMS INTEGRATORS
	5000		SYSTEMS INTEGRATORS
		7373	COMPUTER INTEGRATED SYSTEMS DESIGN
	9987		LEASING CO. USER - NOT IBM CUSTOMER
B6			COMPUTER FACILITY MANAGEMENT FIRMS
	6000		DATA PROCESSING FACILITY MANAGEMENT FIRMS
		7376	COMPUTER FACILITIES MANAGEMENT
	9987		LEASING CO. USER - NOT IBM CUSTOMER
B7			CONTRACT PROGRAMMING
	2100		CONTRACT PROGRAMMING COMPANIES
		7371	COMPUTER PROGRAMMING SERVICES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
B8			PACKAGE PROGRAMMING
	2200		PACKAGE PROGRAMMING COMPANIES
		7372	PREPACKAGED SOFTWARE
	9987		LEASING CO. USER - NOT IBM CUSTOMER
C1			MANAGEMENT CONSULTANTS
	1000		MANAGEMENT CONSULTANTS
		8741	MANAGEMENT SERVICES
		8742	MANAGEMENT CONSULTING SERVICES
		8743	PUBLIC RELATIONS SERVICES
		8748	BUSINESS CONSULTING, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER

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APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
C2			CPA FIRMS & PUBLIC ACCOUNTANTS
	2000		CPA FIRMS
		8721	ACCOUNTING, BOOKKEEPING AND AUDITING
	9987		LEASING CO. USER - NOT IBM CUSTOMER
C3			LEGAL FIRMS
	3000		LAW FIRMS
		8111	LEGAL SERVICES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
DA			APPAREL MANUFACTURERS
	5900		KNIT APPAREL
		2253	KNIT OUTERWEAR MILLS
		2254	KNIT UNDERWEAR MILLS
		2259	KNITTING MILLS, NEC
	5910		HOSIERY
		2251	WOMENS HOSIERY, EXCEPT SOCKS
		2252	HOSIERY, NEC
	5920		LOW STYLE APPAREL MANUFACTURING
		2321	MEN'S AND BOYS' SHIRTS
		2322	MEN'S AND BOYS' UNDERWEAR AND NIGHTWEAR
		2323	MEN'S AND BOYS' NECKWEAR
		2325	MEN'S AND BOYS' TROUSERS AND SLACKS
		2326	MEN'S AND BOYS' WORK CLOTHING
		2329	MEN'S AND BOYS' CLOTHING, NEC
		2331	WOMEN'S AND MISSES' BLOUSES AND SHIRTS
		2341	WOMEN'S AND CHILDREN'S UNDERWEAR
		2361	GIRLS' AND CHILDREN'S DRESSES AND BLOUSES
		2369	GIRLS' AND CHILDREN'S OUTERWEAR, NEC
		2385	WATERPROOF OUTERWEAR
	5930		STYLE APPAREL MANUFACTURING
		2335	WOMEN'S, JUNIORS' AND MISSES' DRESSES
		2339	WOMEN'S AND MISSES' OUTERWEAR, NEC
	5940		SUIT & COAT MANUFACTURING
		2311	MEN'S AND BOYS' SUITS AND COATS
		2337	WOMEN'S AND MISSES' SUITS AND COATS
		2371	FUR GOODS
	5950		FOUNDATION & LINGERIE
		2342	BRAS, GIRDLES, AND ALLIED GARMENTS
		2384	ROBES AND DRESSING GOWNS
	5960		APPAREL - LEATHER CONVERTER - MISC.
		2353	HATS, CAPS AND MILLINERY
		2381	FABRIC DRESS AND WORK GLOVES
		2386	LEATHER AND SHEEP-LINED CLOTHING
		2387	APPAREL BELTS
		2389	APPAREL AND ACCESSORIES, NEC
		2391	CURTAINS AND DRAPERIES
		2392	HOUSEFURNISHINGS, NEC
		2393	TEXTILE BAGS

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		2394	CANVAS AND RELATED PRODUCTS
		2395	PLEATING AND STITCHING
		2396	AUTOMOTIVE AND APPAREL TRIMMINGS
		2397	SCHIFFLI MACHINE EMBROIDERIES
		2399	FABRICATED TEXTILE PRODUCTS, NEC
		3111	LEATHER TANNING AND FINISHING
		3131	FOOTWEAR CUT STOCK
		3151	LEATHER GLOVES AND MITTENS
		3161	LUGGAGE
		3171	WOMENS HANDBAGS AND PURSES
		3172	PERSONAL LEATHER GOODS, NEC
		3199	LEATHER GOODS, NEC
	5970		SHOE MANUFACTURERS
		3142	HOUSE SLIPPERS
		3143	MEN'S FOOTWEAR, EXCEPT ATHLETIC
		3144	WOMEN'S FOOTWEAR, EXCEPT ATHLETIC
		3149	FOOTWEAR, EXCEPT RUBBER, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
D1			GENERAL MERCHANDISE RETAILERS
	1000		DEPARTMENT STORES
		5311	DEPARTMENT STORES
	1020		VARIETY STORES
		533A	DISCOUNT STORES
		5331	VARIETY STORES
	1030		APPAREL SPECIALTY STORES
		5611	MEN'S AND BOYS' CLOTHING STORES
		5621	WOMEN'S CLOTHING STORES
		5632	WOMEN'S ACCESSORY AND SPECIALITY STORES
		5641	CHILDREN'S AND INFANTS' WEAR STORES
		5651	FAMILY CLOTHING STORES
		5661	SHOE STORES
		5699	MISCELLANEOUS APPAREL & ACCESSORY STORES
	1040		RETAIL FURNITURE & HOME FURNISHINGS
		5712	FURNITURE STORES
		5713	FLOOR COVERING STORES
		5714	DRAPERY, CURTAIN, AND UPHOLSTERY STORES
		5719	MISCELLANEOUS HOMEFURNISHING STORES
	1050		RETAIL JEWELRY, STAT., BOOKS, SPORTING GOODS
		5399	MISCELLANEOUS GENERAL MERCHANDISE STORES
		5735	RECORD AND PRERECORDED TAPE STORES
		5736	MUSICAL INSTRUMENTS STORES
		5932	USED MERCHANDISE STORES
		5941	SPORTING GOODS AND BICYCLE SHOPS
		5942	BOOK STORES
		5943	STATIONERY STORES
		5944	JEWELRY STORES
		5945	HOBBY, TOY AND GAME SHOPS
		5946	CAMERA AND PHOTOGRAPHIC SUPPLY STORES

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APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		5947	GIFT, NOVELTY AND SOUVENIR SHOPS
		5948	LUGGAGE AND LEATHER GOODS STORES
		5949	SEWING, NEEDLEWORK, AND PIECE GOODS
		5993	TOBACCO STORES AND STANDS
		5994	NEWSPAPER AND NEWSSTANDS
		5995	OPTICAL GOODS STORES
		5999	MISCELLANEOUS RETAIL STORES, NEC
	1052		RETAIL HARDWARE AND PAINT STORES
		5231	PAINT, GLASS, AND WALLPAPER STORES
		5251	HARDWARE STORES
	1054		RETAIL APPLIANCE AND TELEVISION STORES
		5722	HOUSEHOLD APPLIANCE STORES
		5731	RADIO, TV AND ELECTRONIC STORES
		5734	COMPUTER AND SOFTWARE STORES
	1100		MAIL ORDER
		5961	CATALOG AND MAIL-ORDER HOUSES
	1200		RETAIL BUILDING MATERIALS DEALERS
		5211	LUMBER AND OTHER BUILDING MATERIALS
	1300		OIL JOBBERS / DEALERS
		5983	FUEL OIL DEALERS
		5984	LIQUIFIED PETROLEUM GAS DEALERS
		5989	FUEL DEALERS, NEC
	1400		RETAIL NURSERIES
		5261	RETAIL NURSERIES, LAWN AND GARDEN STORES
		5992	FflorIST STORES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
D2			FOOD AND DRUG RETAILERS
	1080		DRUG RETAILERS
		5912	DRUG STORES AND PROPRIETARY STORES
	2010		VENDING & DIRECT SELLING ORGANIZATIONS
		5962	VENDING MACHINE OPERATORS
		5963	DIRECT SELLING ESTABLISHMENTS
	2050		LIQUOR STORES
		5921	LIQUOR STORES
	2100		FOOD CHAINS
		5411	GROCERY STORES
	2300		SPECIALTY FOOD STORES
		5421	MEAT AND FISH MARKETS
		5431	FRUIT AND VEGETABLE MARKETS
		5441	CANDY, NUT, AND CONFECTIONERY STORES
		5451	DAIRY PRODUCTS STORES
		5461	RETAIL BAKERIES
		5499	MISCELLANEOUS FOOD STORES
	2400		RETAIL FOOD SERVICE
		5812	EATING PLACES
		5813	DRINKING PLACES (ALCOHOLIC BEVERAGES)
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
E1			UNIVERSITIES, PROFESSIONAL SCHOOLS
	1000		PUBLIC UNIVERSITIES
		822H	PUBLIC UNIVERSITIES
		942E	UNIVERSITIES, STATE ENTERPRISE
		952E	UNIVERSITIES, COUNTY ENTERPRISE
		962E	UNIVERSITIES, CITY ENTERPRISE
	1100		PRIVATE UNIVERSITIES
		822B	PRIVATE UNIVERSITIES
	1500		UNIVERSITIES - CONSORTIA
		822J	UNIVERSITIES - CONSORTIA
	4000		MEDICAL SCHOOLS
		822A	MEDICAL SCHOOLS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
E2			FOUR YEAR COLLEGES
	1000		PUBLIC COLLEGES - FOUR YEAR
		8221	PUBLIC FOUR YEAR COLLEGES
		942C	4 YEAR COLLEGES, STATE ENTERPRISE
		952C	4 YEAR COLLEGES, COUNTY ENTERPRISE
		962C	4 YEAR COLLEGES, CITY ENTERPRISE
	1100		PRIVATE COLLEGES - FOUR YEAR
		822C	PRIVATE FOUR YEAR COLLEGES
	1500		COLLEGES, FOUR YEAR - CONSORTIA
		822K	FOUR YEAR COLLEGES - CONSORTIA
	9987		LEASING CO. USER - NOT IBM CUSTOMER
E3			JUNIOR AND COMMUNITY COLLEGES
	2100		JUNIOR AND COMMUNITY COLLEGES
		8222	JUNIOR AND COMMUNITY COLLEGES
		942B	JR./COMMUNITY COLLEGES, STATE ENTERPRISE
		952B	JR./COMMUNITY COLLEGES, COUNTY ENTERPRISE
		962B	JR./COMMUNITY COLLEGES, CITY ENTERPRISE
	2200		JUNIOR AND COMMUNITY COLLEGES - CONSORTIA
		822L	JUNIOR/COMMUNITY COLLEGES - CONSORTIA
	9987		LEASING CO. USER - NOT IBM CUSTOMER
E4			MISCELLANEOUS HIGHER EDUCATION
	5100		MISCELLANEOUS HIGHER EDUCATION
		731E	PURCHASING AGENCIES, HIGHER EDUCATION
		8299	SCHOOLS AND EDUCATIONAL SERVICES/LABS
		8733	NONCOMMERCIAL RESEARCH ORGANIZATIONS
		9420	STATE BD OF EDUCATION-ADM/VOC/ETC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
E5			LIBRARIES
	5200		LIBRARIES
		823A	LIBRARY NETWORKS AND UTILITIES
		8231	UNIVERSITY AND COLLEGE LIBRARIES
		9404	STATE LIBRARIES

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APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		9504	COUNTY LIBRARIES
		9604	CITY LIBRARIES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
E6			MUSEUMS, ZOOS
	5300		MUSEUMS, ZOOS
		8412	MUSEUMS AND ART GALLERIES
		8422	ARBORETA, ZOOLOGICAL AND BOTANICAL GARDENS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
E7			FOR-PROFIT HIGHER EDUCATION INSTITUTIONS
	5400		FOR-PROFIT HIGHER EDUCATION INSTITUTIONS
		822M	FOR-PROFIT HIGHER ED. INSTITUTIONS (ACCREDITED)
	9987		LEASING CO. USER - NOT IBM CUSTOMER
FX			REAL ESTATE.
	5300		REAL ESTATE
		6162	MORTGAGE BANKERS CORRESPONDENTS EX-LOAN
		6163	LOAN BROKERS EXCL-LOAN CORRESPONDENTS
		6517	LESSORS OF RAILROAD PROPERTY
		653A	COMBINED REAL ESTATE, INSURANCE
		6531	REAL ESTATE AGENTS, BROKERS, AND MANAGERS
		6553	CEMETERY SUBDIVIDERS AND DEVELOPERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
F1			COMMERCIAL BANKS - NOT BANK HOLDING CO.
	1190		FEDERAL RESERVE BANKS
		6011	FEDERAL RESERVE BANKS
		6019	CENTRAL RESERVE DEPOSITORY, NEC
	1200		UNIT BANKING
		6022	STATE COMMERCIAL BANKS, FEDERAL RESERVE
		6023	STATE COMMERCIAL BANKS, NOT FED. RES., FDIC
		6024	STATE COMMERCIAL BANKS, NOT FED. RES., NOT FDIC
		6025	NATIONAL BANKS, FEDERAL RESERVE
		6026	PRIVATE BANKS, NOT INC., NOT FDIC
	1300		STATEWIDE/LIMITED BRANCH BANKING
		6022	STATE COMMERCIAL BANKS, FEDERAL RESERVE
		6023	STATE COMMERCIAL BANKS, NOT FED. RES., FDIC
		6024	STATE COMMERCIAL BANKS, NOT FED. RES., NOT FDIC
		6025	NATIONAL BANKS, FEDERAL RESERVE
		6028	PRIVATE BANKS, NOT INC., NOT FDIC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
F2			REGISTERED BANK HOLDING COMPANIES
	2000		REGISTERED BANK HOLDING COMPANIES
		6712	BANK HOLDING COMPANIES
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
F3			CREDIT UNIONS
	5400		CREDIT UNIONS
		6061	FEDERAL CREDIT UNIONS
		6062	STATE CREDIT UNIONS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
F4			SAVINGS/SAVINGS & LOAN
	4000		SAVINGS & LOAN ASSOCIATIONS
		6035	FEDERAL SAVINGS INSTITUTIONS
		6036	SAVINGS INSTITUTIONS, EXC. FEDERAL
	4100		MUTUAL SAVINGS BANK
		603A	MUTUAL SAVINGS BANKS, FEDERAL
		603B	MUTUAL SAVINGS BANKS, EXC. FEDERAL
	9987		LEASING CO. USER - NOT IBM CUSTOMER
F5			ALL OTHER FINANCIAL
	5200		BUSINESS CREDIT INSTITUTIONS
		6153	SHORT-TERM BUSINESS CREDIT INSTITUTIONS
		6159	MISC. BUSINESS CREDIT INSTITUTIONS
	5700		CREDIT INSTITUTIONS
		6111	FEDERAL AND FEDERALLY SPONSORED CREDIT AGENCIES
		6141	PERSONAL CREDIT INSTITUTIONS
	5850		ORGANIZATIONS REL TO BANKS-PERF DP SVCS
		6099	FUNCTIONS RELATED TO DEPOSIT BANKING
	5900		MISC. FINANCE RELATED ORGANIZATIONS
		6091	NONDEPOSIT TRUST FACILITIES
		651B	LESSORS OF COMPUTER EQUIP. - OWN INTERNAL USE
		6719	HOLDING COMPANIES, NEC
		6798	REAL ESTATE INVESTMENT TRUSTS
		873F	COMMERCIAL PHYSICAL RESEARCH, FINANCE
	5960		FOREIGN BANKS
		6081	FOREIGN BANKS, BRANCHES AND AGENCIES
		6082	FOREIGN TRADE AND INTERNATIONAL BANKS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
G1			STATE GOVERNMENT
	1000		CENTRAL DP AUTHORITY
		9419	CENTRAL DATA PROCESSING AUTHORITY
	1010		FINANCE ADMINISTRATION
		9400	PUBLIC GAMING
		9407	TAX - INCOME, PROPERTY
		9413	FINANCE
		9414	REVENUE
		9416	ALCOHOLIC BEV CNTRL
	1020		PLANNING AND DEVELOPMENT
		9408	PLANNING AND DEVELOPMENT
		9415	REGULATORY AGENCIES
	1025		PERSONNEL
		9412	PERSONNEL

APPENDIX C: SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
	1030		HIGHWAY ADMINISTRATION
		9432	HIGHWAY ADMINISTRATION AND CONSTRUCTION
		9433	TOLL ROADS, BRIDGES AND TUNNELS
		9436	WATERWAYS ADMIN REG
		9439	TRANSPORTATION, NEC
	1038		MOTOR VEHICLE ADMINISTRATION
		9431	MOTOR VEHICLE ADMINISTRATION
	1040		HEALTH AND WELFARE ADMINISTRATION
		9425	FOOD STAMPS
		9440	MENTAL HEALTH ADMINISTRATION
		9441	PUBLIC HEALTH ADMINISTRATION
		9444	SOCIAL SERVICES
		9445	GENERAL ASSISTANCE
		9446	PUBLIC ASSISTANCE - CATEGORICAL AID
		9447	PREVENTIVE SERVICES
		9448	MEDICAID
		9449	HEALTH/WELFARE, NEC
		9472	PUBLIC HOUSING
	1045		FIRE
		9454	FIRE
		9455	EMERGENCY SERVICES
		9464	COMPUTER AIDED DISPATCH (E911) - FIRE
		9465	RECORDS MANAGEMENT - FIRE
	1050		LAW ENFORCEMENT
		9452	LAW ENFORCEMENT
		9461	COMPUTER AIDED DISPATCH (E911) - LAW ENFORCEMENT
		9462	RECORDS MANAGEMENT - LAW ENFORCEMENT
		9463	IDENTIFICATION (AFIS)
	1055		JUSTICE ADMINISTRATION
		9418	JUSTICE ADMINISTRATION
		9427	PROSECUTOR
		9450	PROBATION
		9451	PAROLE
		9453	CORRECTIONS/JAILS
		9459	COURTS
	1060		EMPLOYMENT SECURITY ADMINISTRATION
		9481	LABOR ADMINISTRATION
		9482	EMPLOYMENT SECURITY ADMINISTRATION
		9483	EMPLOYMENT SERVICES
		9484	UNEMPLOYMENT INSURANCE
		9485	WORKMENS COMPENSATION
		9486	STATE INSURANCE FUND
		9487	JTPA/CETA
	1070		PLANNING PUBLIC WORKS/NATURAL RESOURCES
		9402	PARKS AND BEACHES
		9430	TRAFFIC CONTROL
		9442	AIR POLLUTION CONTROL
		9443	WATER POLLUTION CONTROL
		9457	DISPOSAL, LAND FILL

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		9460	WASTE WEIGHTING SCHEDULE
		9469	NATURAL RESOURCES, NEC
		9471	BUILDING ADMIN.
		9473	PUBLIC CONSTRUCTION AND BUILDINGS
		9474	PUBLIC LAND ADMIN.
		9475	URBAN RENEWAL
		9476	URBAN SYSTEMS
		9479	PUBLIC WORKS, NEC
		9490	PARKING STRUCTURE
		9494	WATER SYSTEMS
		9495	SANITARY SERVICES
		9496	ENVIRONMENTAL SERVICES
		9499	UTILITIES, NEC
	1080		LEGISLATIVE
		9417	LEGISLATIVE
	1090		MISCELLANEOUS OTHER FUNCTIONS
		9411	EXECUTIVE BRANCH
	1095		ELECTION BOARDS / VOTER REGISTRATION
		9492	ELECTION BOARDS / VOTER REGISTRATION
		9498	INTERSTATE ORGAN., AUTHOR. & COMM., ETC.
	9987		LEASING CO. USER - NOT IBM CUSTOMER
G2			CITY GOVERNMENT
	1000		CENTRAL DP AUTHORITY
		9619	CENTRAL DP AUTHORITY
		9624	CENTRAL SERVICES
	1010		FINANCE ADMINISTRATION
		9600	PUBLIC GAMING
		9613	FINANCE
		9614	REVENUE
		9616	ALCOHOLIC BEV CNTRL
	1020		PLANNING AND DEVELOPMENT
		9608	PLANNING AND DEVELOPMENT
		9610	RECORDS MANAGEMENT
		9615	REGULATORY AGENCIES
		9621	ADMINISTRATION
		9658	PLANNING BOARD
	1025		PERSONNEL
		9612	PERSONNEL
	1030		HIGHWAY ADMINISTRATION
		9630	TRAFFIC CONTROL
		9632	HIGHWAY ADMINISTRATION - CONST. & MAINT.
		9633	TOLL ROADS, BRIDGES AND TUNNELS
		9639	TRANSPORTATION, NEC
	1035		MASS TRANSIT
		9635	MASS TRANSIT
		9688	AIRPORT TERMINAL SERVICES
	1038		MOTOR VEHICLE ADMINISTRATION
		9631	MOTOR VEHICLE ADMINISTRATION

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
	1040		HEALTH AND WELFARE ADMINISTRATION
		9625	FOOD STAMPS
		9640	MENTAL HEALTH ADMINISTRATION
		9641	PUBLIC HEALTH ADMINISTRATION
		9644	SOCIAL SERVICES
		9645	GENERAL ASSISTANCE
		9646	PUBLIC ASSISTANCE - CATEGORICAL AID
		9647	PREVENTIVE SERVICES
		9649	HEALTH/WELFARE, NEC
		9672	PUBLIC HOUSING
		9687	JTPA/CETA
	1045		FIRE
		9654	FIRE
		9655	EMERGENCY SERVICES
		9664	COMPUTER AIDED DISPATCH (E911) - FIRE
		9665	RECORDS MANAGEMENT - FIRE
	1050		LAW ENFORCEMENT
		9652	LAW ENFORCEMENT
		9661	COMPUTER AIDED DISPATCH (E911) - LAW ENFORCEMENT
		9662	RECORDS MANAGEMENT - LAW ENFORCEMENT
		9663	IDENTIFICATION (AFIS)
	1055		JUSTICE ADMINISTRATION
		9618	JUSTICE ADMINISTRATION
		9627	PROSECUTOR
		9650	PROBATION
		9651	PAROLE
		9653	CORRECTIONS/JAILS
		9659	COURTS
	1070		PLANNING PUBLIC WORKS/NATURAL RESOURCES
		9602	PARKS AND BEACHES
		9636	WASTEWAYS ADMINISTRATION, REG.
		9642	AIR POLLUTION CONTROL
		9643	WATER POLLUTION CONTROL
		9657	DISPOSAL, LAND FILL
		9660	WASTE WEIGHTING, SCH
		9669	NATURAL RESOURCES, NEC
		9671	BUILDING ADMIN.
		9673	PUBLIC CONSTRUCTION AND BUILDINGS
		9674	PUBLIC LAND ADMINISTRATION
		9675	URBAN RENEWAL
		9676	URBAN SYSTEMS
		9679	PUBLIC WORKS, NEC
		9690	PARKING STRUCTURE
		9694	WATER SUPPLY
		9695	SANITARY SERVICES
		9696	ENVIRONMENTAL SERVICES
		9699	UTILITIES, NEC
	1080		LEGISLATIVE
		9617	LEGISLATIVE

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
	1090		MISCELLANEOUS OTHER FUNCTIONS
		9611	EXECUTIVE BRANCH
	1095		ELECTION BOARDS / VOTER REGISTRATION
		9692	ELECTION BOARDS / VOTER REGISTRATION
	9987		LEASING CO. USER - NOT IBM CUSTOMER
G3			COUNTY GOVERNMENT
	1000		CENTRAL DP AUTHORITY
		9519	CENTRAL DP AUTHORITY
		9524	CENTRAL SERVICES
	1010		FINANCE ADMINISTRATION
		9505	BUDGET APPROP.-ACCTG
		9507	TAX-INCOME,PROPERTY
		9513	FINANCE
		9514	REVENUE
	1020		PLANNING AND DEVELOPMENT
		9508	PLANNING AND DEVELOPMENT
		9510	RECORDS MANAGEMENT
		9515	REGULATORY AGENCIES
		9521	ADMINISTRATION
	1025		PERSONNEL
		9512	PERSONNEL
	1030		HIGHWAY ADMINISTRATION
		9532	HIGHWAY ADMINISTRATION - CONST. & MAINT.
		9533	TOLL ROADS, BRIDGES AND TUNNELS
		9539	TRANSPORTATION, NEC
	1035		MASS TRANSIT
		9535	MASS TRANSIT
		9588	AIRPORT TERMINAL SERVICES
	1038		MOTOR VEHICLE ADMINISTRATION
		9531	MOTOR VEHICLE ADMINISTRATION
	1040		HEALTH AND WELFARE ADMINISTRATION
		9525	FOOD STAMPS
		9540	MENTAL HEALTH ADMINISTRATION
		9541	PUBLIC HEALTH ADMINISTRATION
		9544	SOCIAL SERVICES
		9545	GENERAL ASSISTANCE
		9546	PUBLIC ASSISTANCE - CATEGORICAL AID
		9547	PREVENTIVE SERVICES
		9549	HEALTH/WELFARE NEC
		9587	JTPA/CETA
	1045		FIRE
		9554	FIRE
		9555	EMERGENCY SERVICES
		9564	COMPUTER AIDED DISPATCH (E911) - FIRE
		9565	RECORDS MANAGEMENT - FIRE
	1050		LAW ENFORCEMENT
		9552	LAW ENFORCEMENT
		9561	COMPUTER AIDED DISPATCH (E911) - LAW ENFORCEMENT

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		9562	RECORDS MANAGEMENT - LAW ENFORCEMENT
		9563	IDENTIFICATION (AFIS)
	1055		JUSTICE ADMINISTRATION
		9518	JUSTICE ADMINISTRATION
		9527	PROSECUTOR
		9550	PROBATION
		9551	PAROLE
		9553	CORRECTIONS/JAILS
		9559	COURTS
	1070		PLANNING PUBLIC WORKS/NATURAL RESOURCES
		9502	PARKS AND BEACHES
		9530	TRAFFIC CONTROL
		9536	WASTEWAYS ADMINISTRATION, REG.
		9542	AIR POLLUTION CONTROL
		9543	WATER POLLUTION CONTROL
		9557	DISPOSAL, LAND FILL
		9558	PLANNING BOARD
		9560	WASTE WEIGHTING, SCH
		9569	NATURAL RESOURCES, NEC
		9571	BUILDING ADMIN.
		9574	PUBLIC LAND ADMINISTRATION
		9579	PUBLIC WORKS, NEC
		9590	PARKING STRUCTURE
		9594	WATER SUPPLY
		9595	SANITARY SERVICES
		9596	ENVIRONMENTAL SERVICES
		9599	UTILITIES, NEC
	1080		LEGISLATIVE
		9517	LEGISLATIVE
	1090		MISCELLANEOUS OTHER FUNCTIONS
		9511	EXECUTIVE BRANCH
	1095		ELECTION BOARDS / VOTER REGISTRATION
		9592	ELECTION BOARDS / VOTER REGISTRATION
	9987		LEASING CO. USER - NOT IBM CUSTOMER
G4			SPECIAL DISTRICTS
	1020		PLANNING AND DEVELOPMENT
		9708	ADMINISTRATION & PLANNING
	1035		MASS TRANSIT
		9735	TRANSPORTATION
	1045		FIRE
		9754	FIRE
		9755	EMERGENCY SERVICES
		9764	COMPUTER AIDED DISPATCH (E911) - FIRE
		9765	RECORDS MANAGEMENT - FIRE
	1050		LAW ENFORCEMENT
		9752	LAW ENFORCEMENT
		9761	COMPUTER AIDED DISPATCH (E911) - LAW ENFORCEMENT
		9762	RECORDS MANAGEMENT - LAW ENFORCEMENT

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		9763	IDENTIFICATION (AFIS)
	1055		JUSTICE ADMINISTRATION
		9718	JUSTICE ADMINISTRATION
		9727	PROSECUTOR
		9750	PROBATION
		9751	PAROLE
		9753	CORRECTIONS/JAILS
		9759	COURTS
	1070		ENVIRONMENT AND NATURAL RESOURCES
		9796	ENVIRONMENTAL SERVICES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
H1			SHORT TERM HOSPITALS/UNIVERSITY HOSPITALS
	1000		SHORT TERM HOSPITALS
		8062	GENERAL MEDICAL AND SURGICAL HOSPITALS
	1500		UNIVERSITY HOSPITALS
		806A	UNIVERSITY HOSPITALS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
H2			LONG TERM HOSPITALS
	2000		LONG TERM HOSPITALS
		8063	PSYCHIATRIC HOSPITALS
		8069	OTHER LONG TERM HOSPITALS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
H3			ALTERNATE HEALTH CARE FACILITIES
	2400		INPATIENT CARE - NOT HOSPITALS
		8051	SKILLED NURSING CARE FACILITIES
		8059	NURSING AND PERSONAL CARE, NEC
		8082	HOME HEALTH CARE SERVICES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
H4			MEDICAL GROUP CLINICS/OFFICES OF PHYSICIANS
	1510		MEDICAL GROUP PRAC. CLINICS
		8052	MED GRP PRAC CLINICS
	1520		SPECIALITY OUTPATIENT CLINICS
		8093	SPECIALITY OUTPATIENT CLINICS
	4800		OFFICES OF PHYSICIANS, SURGEONS, DENTISTS, ETC.
		8011	OFFICES AND CLINICS OF MEDICAL DOCTORS
		8021	OFFICES AND CLINICS OF DENTISTS
		8031	OFFICES AND CLINICS OF OSTEOPATHIC PHYSICIANS
		8041	OFFICES AND CLINICS OF CHIROPRACTORS
		8042	OFFICES AND CLINICS OF OPTOMETRISTS
		8043	OFFICES AND CLINICS OF PODIATRISTS
		8049	OFFICES OF HEALTH PRACTITIONERS, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER

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APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
H6			HEALTH DATA SERVICES
	3900		HEALTH DATA SERVICES
		809E	HEALTH DATA SERVICES
		942H	HEALTH SERVICES, STATE ENTERPRISE
		952H	HEALTH SERVICES, COUNTY ENTERPRISE
		962H	HEALTH SERVICES, CITY ENTERPRISE
	9987		LEASING CO. USER - NOT IBM CUSTOMER
H7			HEALTH CONSULTANTS
	4910		HEALTH CONSULTANTS
		809B	CONSULTANTS - MEDICAL
	9987		LEASING CO. USER - NOT IBM CUSTOMER
H8			CLINICAL LABS
	4700		CLINICAL LABS
		8071	MEDICAL LABORATORIES
		8072	DENTAL LABORATORIES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
H9			HEALTH - OTHER
	1530		KIDNEY DIALYSIS CENTERS
		8092	KIDNEY DIALYSIS CENTERS
	4100		AR MEDIQUEST
		809C	AR MEDIQUEST
	4900		OTHER HEALTH ORGANIZATIONS
		731H	PURCHASING AGENCIES, HEALTH
		809A	HEALTH CARE COMPLEXES - REGIONAL MEDICAL PGMS
		809D	COMP COMM HEALTH CENTERS
		8099	HEALTH AND ALLIED SERVICES, NEC
		862A	PROFESSIONAL MEDICAL ASSOCIATIONS
		873H	COMMERCIAL PHYSICAL RESEARCH, MEDICAL
	9987		LEASING CO. USER - NOT IBM CUSTOMER
J2			AUTO/MOTOR VEH. - DEALERS, PARTS & REPAIR
	1120		RETAIL MOTOR VEHICLE DEALERS
		5271	MOBILE HOMES
		5511	NEW AND USED CAR DEALERS
		5521	USED CAR DEALERS
		5531	AUTO AND HOME SUPPLY STORES
		5551	BOAT DEALERS
		5561	RECREATION VEHICLE DEALERS
		5571	MOTORCYCLE DEALERS
		5599	AUTOMOTIVE DEALERS, NEC
	4010		AUTO & WHOLESALE PARTS SUPPLY
		5012	AUTOMOBILES AND OTHER MOTOR VEHICLES
		5013	MOTOR VEHICLE SUPPLIES AND NEW PARTS
		5014	TIRES AND TUBES
		5015	MOTOR VEHICLE PARTS, USED
		5082	CONSTRUCTION AND MINING MACHINERY

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		5083	FARM AND GARDEN MACHINERY
	4020		AUTO REPAIR & MAINTENANCE
		7532	TOP AND BODY REPAIR AND PAINT SHOPS
		7533	AUTOMOTIVE EXHAUST SYSTEM REPAIR SHOPS
		7534	TIRE RETREADING AND REPAIR SHOPS
		7536	AUTOMOTIVE GLASS REPLACEMENT SHOPS
		7537	AUTOMOTIVE TRANSMISSION REPAIR SHOPS
		7538	GENERAL AUTOMOBILE REPAIR SHOPS
		7539	AUTOMOBILE REPAIR SHOPS, NEC
		7542	CARWASHES
		7549	AUTOMOTIVE SERVICES, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
J3			NON-DURABLE GOODS WHOLESALERS
	3060		SOFTGOODS WHOLESALERS
		5131	PIECE GOODS AND NOTIONS
		5136	MEN'S AND BOYS' CLOTHING
		5137	WOMEN'S AND CHILDREN'S CLOTHING
		5139	FOOTWEAR
	3140		WHOLESALE PAINT AND CHEMICALS
		5169	CHEMICALS AND ALLIED PRODUCTS, NEC
		5198	PAINTS, VARNISHES, AND SUPPLIES
	3160		WHOLESALE PAPER
		5111	PRINTING AND WRITING PAPER
		5112	STATIONERY AND OFFICE SUPPLIES
		5113	INDUSTRIAL AND PERSONAL SERVICE PAPER
		5192	BOOKS, PERIODICALS, AND NEWSPAPERS
	3200		DRUG WHOLESALERS
		5122	DRUGS, PROPRIETARIES, AND SUNDRIES
	3250		GROCERY WHOLESALERS
		5141	GROCERIES, GENERAL LINE
	3300		SPECIALTY FOOD DISTRIBUTORS
		5142	PACKAGED FROZEN FOODS
		5143	DAIRY PRODUCTS, EXC. DRIED OR CANNED
		5144	POULTRY AND POULTRY PRODUCTS
		5145	CONFECTIONERY
		5146	FISH AND SEAFOODS
		5147	MEATS AND MEAT PRODUCTS
		5148	FRESH FRUITS AND VEGETABLES
		5149	GROCERIES AND RELATED PRODUCTS, NEC
		5153	GRAIN AND FIELD BEANS
		5154	LIVESTOCK
		5159	FARM-PRODUCT RAW MATERIAL, NEC
		5181	BEER AND ALE
		5182	WINES AND DISTILLED BEVERAGES
		5194	TOBACCO AND TOBACCO PRODUCTS
	3500		MISCELLANEOUS SOFTGOODS
		5162	PLASTICS MATERIALS AND BASIC SHAPES
		5191	FARM SUPPLY

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		5193	FLOWERS AND FLORIST SUPPLIES
		5199	NONDURABLE GOODS NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
J4			DURABLE GOODS WHOLESALERS
	4000		WHOLESALE AUTO & MACHINE EQUIPMENT SUPPLY
		5046	COMMERCIAL EQUIPMENT, NEC
		5049	PROFESSIONAL EQUIPMENT, NEC
		5084	INDUSTRIAL MACHINERY AND EQUIPMENT
		5085	INDUSTRIAL SUPPLIES
		5087	SERVICE ESTABLISHMENT EQUIPMENT
		5088	TRANSPORTATION EQUIPMENT AND SUPPLIES
	4100		WHOLESALE ELECTRICAL SUPPLY AND PARTS
		5063	ELECTRICAL APPARATUS AND EQUIPMENT
		5065	ELECTRONIC PARTS AND EQUIPMENT
	4110		WHOLESALE HARDWARE
		5072	HARDWARE
	4120		WHOLESALE APPLIANCES
		5064	ELECTRICAL APPLIANCES, TV, AND RADIOS
	4130		WHOLESALE PLUMBING & AIR CONDITIONING
		5074	PLUMBING AND HYDRONIC HEATING SUPPLIES
		5075	WARM AIR HEATING AND AIR CONDITIONING
		5078	REFRIGERATION EQUIPMENT AND SUPPLIES
	4140		WHOLESALE METALS & MINERALS
		5051	METALS SERVICE CENTERS AND OFFICES
		5052	COAL AND OTHER MINERALS AND ORES
	4170		WHOLESALE LUMBER, CONSTRUCTION MATERIALS
		5031	LUMBER, PLYWOOD, AND MILLWORK
		5033	ROOFING, SIDING, AND INSULATION
		5039	CONSTRUCTION MATERIALS, NEC
	4180		WHOLESALE FURNITURE, HOME FURNISHINGS
		5021	FURNITURE
		5023	HOMEFURNISHINGS
	4500		MISCELLANEOUS HARDGOODS
		5032	BRICK, STONE AND RELATED MATERIALS
		5043	PHOTOGRAPHIC EQUIPMENT AND SUPPLIES
		5044	OFFICE EQUIPMENT
		5045	COMPUTERS, PERIPHERALS, AND SOFTWARE
		5047	MEDICAL AND HOSPITAL EQUIPMENT
		5048	OPTHALMIC GOODS
		5091	SPORTING AND RECREATIONAL GOODS
		5092	TOYS AND HOBBY GOODS AND SUPPLIES
		5093	SCRAP AND WASTE MATERIALS
		5094	JEWELRY, WATCHES, AND PRECIOUS STONES
		5099	MISCELLANEOUS DURABLE GOODS, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
J5			REPAIR SERVICES
	5020		REPAIR AND MAINTENANCE SERVICE
		7692	WELDING REPAIR
		7694	ARMATURE REWINDING SHOPS
	5040		REUPHOLSTRY AND FURNITURE REPAIR
		7641	REUPHOLSTERY AND FURNITURE REPAIR
	5050		WATCH, CLOCK, AND JEWELRY REPAIR
		7631	WATCH, CLOCK, AND JEWELRY REPAIR
	5060		RETAIL APPLIANCE AND TV REPAIR SHOPS
		7622	RADIO AND TELEVISION REPAIR SHOPS
		7623	REFRIGERATION SERVICE AND REPAIR
		7629	ELECTRICAL REPAIR SHOPS, NEC
	5070		MISCELLANEOUS REPAIR SERVICES
		7699	MISCELLANEOUS REPAIR SERVICES, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
J6			PERSONAL SERVICES
	6500		PERSONAL SERVICES
		7221	PHOTOGRAPHIC STUDIOS, PORTRAIT
		7231	BEAUTY SHOPS
		7241	BARBER SHOPS
		7251	SHOE REPAIR AND SHOESHINE PARLORS
		7261	FUNERAL SERVICE AND CREMATORIES
		7291	TAX RETURN PREPARATION SERVICES
		7299	MISCELLANEOUS PERSONAL SERVICES, NEC
	6520		LAUNDERERS
		7211	POWER LAUNDRIES, FAMILY AND COMMERCIAL
		7212	GARMENT PRESSING AND CLEANERS AGENTS
		7213	LINEN SUPPLY
		7215	COIN-OPERATED LAUNDRIES AND CLEANING
		7216	DRYCLEANING PLANTS, EXCEPT RUG
		7217	CARPET AND UPHOLSTERY CLEANING
		7218	INDUSTRIAL LAUNDERERS
		7219	LAUNDRY AND GARMENT SERVICES, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
J7			LODGING SERVICES
	7100		HOTELS, MOTELS, AND OTHER LODGING
		7011	HOTELS, MOTELS, AND TOURIST COURTS
		7021	ROOMING AND BOARDING HOUSES
		7032	SPORTING AND RECREATIONAL CAMPS
		7033	RECREATION VEHICLE PARKS AND CAMPSITES
		7041	MEMBERSHIP-BASIS ORGANIZATION HOTELS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
J8			BUSINESS SERVICES
	8000		BUSINESS SERVICES
		7335	COMMERCIAL PHOTOGRAPHY
		7336	COMMERCIAL ART AND GRAPHIC DESIGN

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		7342	DISINFECTING AND EXTERMINATING SERVICES
		7349	BUILDING MAINTENANCE SERVICES, NEC
		7352	MEDICAL EQUIPMENT RENTAL
		7353	HEAVY CONSTRUCTION EQUIPMENT RENTAL
		7359	EQUIPMENT RENTAL AND LEASING, NEC (EXC. DP)
		7361	EMPLOYMENT AGENCIES
		7363	HELP SUPPLY SERVICES
		7381	DETECTIVE AND ARMORED CAR SERVICES
		7382	SECURITY SYSTEMS SERVICES
		7389	BUSINESS SERVICES, NEC
		8744	FACILITIES SUPPORT SERVICES (EXC. COMPUTER)
	8100		CREDIT BUREAUS AND COLLECTION AGENCIES
		7322	ADJUSTMENT AND COLLECTION SERVICES
		7323	CREDIT REPORTING SERVICES
	8200		RESEARCH AND TESTING LABS
		8731	COMMERCIAL PHYSICAL RESEARCH
		8734	TESTING LABORATORIES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
J9			RESIDENTIAL
	9000		RESIDENTIAL CARE
		8361	RESIDENTIAL CARE
	9010		PRIVATE HOUSEHOLDS
		8811	PRIVATE HOUSEHOLDS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
K1			NEWSPAPER PUBLISHING
	1000		NEWSPAPER PUBLISHING
		2711	NEWSPAPERS, PUBLISHING AND PRINTING
	9987		LEASING CO. USER - NOT IBM CUSTOMER
K2			MAGAZINE/PERIODICAL PUBLISHING
	1100		PERIODICAL PUBLISHING
		2721	PERIODICALS, PUBLISHING AND PRINTING
	9987		LEASING CO. USER - NOT IBM CUSTOMER
K3			BOOK PUBLISHING
	1200		BOOK PUBLISHING
		2731	BOOK PUBLISHING
	9987		LEASING CO. USER - NOT IBM CUSTOMER
K4			MISCELLANEOUS PUBLISHING
	1300		MISCELLANEOUS PUBLISHING
		274A	ELECTRONIC DATA BASE PUBLISHING
		2741	MISCELLANEOUS PUBLISHING
	1400		MEDIA SERVICES, NEC
		7383	NEWS SYNDICATES
		873K	COMMERCIAL PHYSICAL RESEARCH, MEDIA
		8999	SERVICES, NEC

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
	9987		LEASING CO. USER - NOT IBM CUSTOMER
K5			COMMERCIAL PRINTING
	2000		COMMERICAL PRINTING
		2752	COMMERCIAL PRINTING, LITHOGRAPHIC
		2754	COMMERCIAL PRINTING, GRAVURE
		2759	COMMERCIAL PRINTING, NEC
	2100		BOOK PRINTING
		2732	BOOK PRINTING
	2200		BUSINESS FORMS
		2761	MANIFOLD BUSINESS FORMS
	2300		GREETING CARD MANUFACTURING
		2771	GREETING CARDS
	2400		PRINTING SERVICES
		2782	BLANKBOOKS AND LOOSELEAF BINDERS
		2789	BOOKBINDING AND RELATED WORK
		2791	TYPESETTING
		2796	PLATEMAKING SERVICES
	2500		REPRODUCTION SERVICES
		7334	PHOTOCOPYING AND DUPLICATING SERVICES
		7338	SECRETARIAL AND COURT REPORTING
		7384	PHOTOFINISHING LABORATORIES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
K6			ADVERTISING/MARKETING .
	3000		ADVERTISING AGENCIES
		7311	ADVERTISING AGENCIES
	3100		DIRECT MAIL
		596A	RECORD AND TAPE CLUBS
		7331	DIRECT MAIL ADVERTISING SERVICES
	3200		OTHER MARKETING SERVICES
		7312	OUTDOOR ADVERTISING SERVICES
		7313	RADIO, TV, PUBLISHER REPRESENTATIVES
		7319	ADVERTISING, NEC
		8732	COMMERCIAL NONPHYSICAL RESEARCH
	9987		LEASING CO. USER - NOT IBM CUSTOMER
K7			BROADCASTING
	4000		RADIO & TV BROADCASTING
		4832	RADIO BROADCASTING STATIONS
		4833	TELEVISION BROADCASTING STATIONS
		484A	CABLE NETWORK PROGRAMMING
	9987		LEASING CO. USER - NOT IBM CUSTOMER
K8			ASSOCIATIONS AND CHURCHES
	5000		BUSINESS, PROFESSIONAL & TRADE ORGANIZATIONS
		8611	BUSINESS ASSOCIATIONS
		8621	PROFESSIONAL ORGANIZATIONS
		8631	LABOR ORGANIZATIONS

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APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
	5100		OTHER MEMBERSHIP ORGANIZATIONS
		8322	INDIVIDUAL AND FAMILY SERVICES
		8351	CHILD DAY CARE SERVICES
		8399	SOCIAL SERVICES, NEC
		8641	CIVIC AND SOCIAL ASSOCIATIONS
		8651	POLITICAL ORGANIZATIONS
		8661	RELIGIOUS ORGANIZATIONS
		8699	MEMBERSHIP ORGANIZATIONS, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
K9			ENTERTAINMENT AND LEISURE
	6000		MOTION PICTURES & RELATED SERVICES
		7812	MOTION PICTURE AND VIDEO PRODUCTION
		7819	MOTION PICTURE SERVICES
		7822	MOTION PICTURE AND TAPE DISTRIBUTION
		7829	MOTION PICTURE DISTRIBUTION SERVICES
		7832	MOTION PICTURE THEATERS, EXCEPT DRIVE-INS
		7833	DRIVE-IN MOTION PICTURE THEATERS
		7841	VIDEO TAPE RENTAL
	6100		OTHER AMUSEMENT, SPORTS, ENTERTAINMENT
		7911	DANCE HALLS, STUDIOS, SCHOOLS
		7922	THEATRICAL PRODUCERS AND MISC. SERVICES
		7929	ENTERTAINERS AND ENTERTAINMENT GROUPS
		7933	BOWLING CENTERS
		7941	SPORTS CLUBS, MANAGERS, PROMOTERS, ARENAS
		7948	RACING, INCLUDING TRACK OPERATION
		7991	PHYSICAL FITNESS FACILITIES
		7992	PUBLIC GOLF COURSES
		7993	COIN-OPERATED AMUSEMENT DEVICES
		7996	AMUSEMENT PARKS
		7997	MEMBERSHIP SPORTS AND RECREATION CLUBS
		7999	AMUSEMENT AND RECREATION, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
MA			AEROSPACE
	1110		AIRCRAFT & MISSILES
		3721	AIRCRAFT
		3761	GUIDED MISSILES AND SPACE VEHICLES
	1120		ENGINES & PARTS
		3724	AIRCRAFT ENGINES AND ENGINE PARTS
		3728	AIRCRAFT PARTS AND EQUIPMENT, NEC
		3764	SPACE PROPULSION UNITS AND PARTS
		3769	SPACE VEHICLE EQUIPMENT, NEC
	1130		SHIPBUILDING AND REPAIR
		3731	SHIP BUILDING AND REPAIRNG
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
M1			CONSTRUCTION
	1140		BUILDER, OPERATOR
		1521	SINGLE FAMILY HOUSING CONSTRUCTION
		1522	RESIDENTIAL CONSTRUCTION, NEC
		1531	OPERATIVE BUILDERS
		1541	INDUSTRIAL BUILDINGS AND WAREHOUSES
		1542	NONRESIDENTIAL CONSTRUCTION, NEC
		1611	HIGHWAY AND STREET CONSTRUCTION
		1622	BRIDGE, TUNNEL, AND ELEVATED HIGHWAY
		1623	WATER, SEWER AND UTILITY LINES
		1629	HEAVY CONSTRUCTION, NEC
		1711	PLUMBING, HEATING, AIR CONDITIONING
		1721	PAINTING, PAPER HANGING, AND DECORATING
		1731	ELECTRICAL WORK
		1741	MASONRY AND OTHER STONEWORK
		1742	PLASTERING, DRYWALL, AND INSULATION
		1743	TERRAZZO, TILE, MARBLE, AND MOSAIC WORK
		1751	CARPENTRY WORK
		1752	FLOOR LAYING AND FLOORWORK, NEC
		1761	ROOFING, SIDING, AND SHEET METAL WORK
		1771	CONCRETE WORK
		1781	WATER WELL DRILLING
		1791	STRUCTURAL STEEL ERECTION
		1793	GLASS AND GLAZING WORK
		1794	EXCAVATION WORK
		1795	WRECKING AND DEMOLITION WORK
		1796	INSTALLING BUILDING EQUIPMENT, NEC
		1799	SPECIAL TRADE CONTRACTORS, NEC
		651A	FACILITIES MANAGEMENT - REAL ESTATE
		6512	OPERATORS OF NONRESIDENTIAL BUILDINGS
		6513	OPERATORS OF APARTMENT BUILDINGS
		6514	DWELLING OPERATORS, EXC. APARTMENTS
		6515	MOBILE HOME SITE OPERATORS
		6519	LESSORS OF REAL PROPERTY, NEC
		6552	SUBDIVIDERS AND DEVELOPERS, NEC
	1150		ARCHITECTS & ENGINEERS
		8711	ENGINEERING SERVICES
		8712	ARCHITECTURAL SERVICES
		8713	SURVEYING SERVICES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
M2			MOTOR VEHICLE & OTHER TRANSPORTATION EQUIP.
	2110		MOTOR VEHICLES
		3465	AUTOMOTIVE STAMPINGS
		3711	MOTOR VEHICLES AND PASSENGER CAR BODIES
		3713	TRUCK AND BUS BODIES
		3715	TRUCK TRAILERS
	2120		PARTS & ACCESSORIES
		3592	CARBURETORS, PISTONS, RINGS, VALVES

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		3714	MOTOR VEHICLE PARTS AND ACCESSORIES
	2130		OTHER TRANSPORTATION EQUIPMENT
		2451	MOBILE HOMES
		3524	LAWN AND GARDEN EQUIPMENT
		3531	CONSTRUCTION MACHINERY AND EQUIPMENT
		3537	INDUSTRIAL TRUCKS AND TRACTORS
		3716	MOTOR HOMES
		3732	BOAT BUILDING AND REPAIRING
		3743	RAILROAD EQUIPMENT
		3751	MOTORCYCLES, BICYCLES, AND PARTS
		3792	TRAVEL TRAILERS AND CAMPERS
		3795	TANKS AND TANK COMPONENTS
		3799	TRANSPORTATION EQUIPMENT, NEC
	4110		ENGINES AND TURBINES
		3511	TURBINES AND TURBINE GENERATOR SETS
		3519	INTERNAL COMBUSTION ENGINES, NEC
	4120		FARM MACHINERY
		3523	FARM MACHINERY AND EQUIPMENT
	9987		LEASING CO. USER - NOT IBM CUSTOMER
M3			ELECTRICAL MACHINERY
	3110		ELECTRICAL TRANSMISSION & INDUSTRIAL SYSTEMS
		3568	POWER TRANSMISSION EQUIPMENT, NEC
		3612	TRANSFORMERS, EXCEPT ELECTRONIC
		3613	SWITCHGEAR AND SWITCHBOARD APPARATUS
		3621	MOTORS AND GENERATORS
		3624	CARBON AND GRAPHITE PRODUCTS
		3625	RELAYS AND INDUSTRIAL CONTROLS
		3629	ELECTRICAL INDUSTRIAL APPARATUS, NEC
		3691	STORAGE BATTERIES
		3692	PRIMARY BATTERIES, DRY AND WET
		3694	ENGINE ELECTRICAL EQUIPMENT
		3699	ELECTRICAL EQUIPMENT AND SUPPLIES, NEC
	3120		COMMUNICATION EQUIPMENT
		3651	HOUSEHOLD AUDIO AND VIDEO EQUIPMENT
		3652	PRERECORDED RECORDS AND TAPES
		3661	TELEPHONE AND TELEGRAPH APPARATUS
		3663	RADIO AND TV COMMUNICATIONS EQUIPMENT
		3669	COMMUNICATIONS EQUIPMENT, NEC
	3130		ELECTRONIC COMPONENTS/EQUIPMENT
		357L	DP MANUFACTURERS INTERNAL DP USE
		3571	ELECTRONIC COMPUTERS
		3572	COMPUTER STORAGE DEVICES
		3575	COMPUTER TERMINALS
		3577	COMPUTER PERIPHERAL EQUIPMENT, NEC
		3579	OFFICE MACHINES, NEC
		3671	ELECTRON TUBES
		3672	PRINTED CIRCUIT BOARDS
		3674	SEMICONDUCTORS AND RELATED DEVICES

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		3675	ELECTRONIC CAPACITORS
		3676	ELECTRONIC RESISTORS
		3677	ELECTRONIC COILS AND TRANSFORMERS
		3678	ELECTRONIC CONNECTORS
		3679	ELECTRONIC COMPONENTS, NEC
		3695	MAGNETIC AND OPTICAL RECORDING MEDIA
	3140		APPLIANCES & LIGHTING DEVICES
		3631	HOUSEHOLD COOKING EQUIPMENT
		3632	HOUSEHOLD REFRIGFRATORS AND FREEZERS
		3633	HOUSEHOLD LAUNDRY EQUIPMENT
		3634	ELECTRIC HOUSEWARES AND FANS
		3635	HOUSEHOLD VACUUM CLEANERS
		3639	HOUSEHOLD APPLIANCES, NEC
		3641	ELECTRIC LAMPS
		3643	CURRENT-CARRYING WIRING DEVICES
		3644	NONCURRENT-CARRYING WIRING DEVICES
		3645	RESIDENTIAL LIGHTING FIXTURES
		3646	COMMERCIAL LIGHTING FIXTURES
		3647	VEHICULAR LIGHTING EQUIPMENT
		3648	LIGHTING EQUIPMENT, NEC
	4140		OFFICE MACHINERY
		3578	CALCULATING AND ACCOUNTING EQUIPMENT
		3596	SCALES AND BALANCES, EXC. LABORATORY
	4160		INSTRUMENTS
		3812	SEARCH AND NAVIGATION EQUIPMENT
		3821	LABORATORY APPARATUS AND FURNITURE
		3822	ENVIRONMENTAL CONTROLS
		3823	PROCESS CONTROL INSTRUMENTS
		3824	FLUID METERS AND COUNTING DEVICES
		3825	INSTRUMENTS TO MEASURE ELECTRICTY
		3826	ANALYTICAL INSTRUMENTS
		3827	OPTICAL INSTRUMENTS AND LENSES
		3829	MEASURING AND CONTROLLING DEVICES, NEC
		3841	SURGICAL AND MEDICAL INSTRUMENTS
		3842	SURGICAL APPLIANCES AND SUPPLIES
		3843	DENTAL EQUIPMENT AND SUPPLIES
		3844	X-RAY APPARATUS AND TUBES
		3845	ELECTROMEDICAL EQUIPMENT
		3851	OPHTHALMIC GOODS
		3861	PHOTOGRAPHIC EQUIPMENT AND SUPPLIES
		3873	WATCHES, CLOCKS, WATCHCASES AND PARTS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
M5			FABRICATED PRODUCTS
	4130		METAL-WORKING MACHINERY
		3541	MACHINE TOOLS, METAL CUTTING TYPES
		3542	MACHINE TOOLS, METAL FORMING TYPES
		3543	INDUSTRIAL PATTERNS
		3544	SPECIAL DIES, TOOLS, JIGS & FIXTURES

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		3545	MACHINE TOOL ACCESSORIES
		3546	POWER DRIVEN HANDTOOLS
		3547	ROLLING MILL MACHINERY
		3548	WELDING APPARATUS
		3549	METALWORKING MACHINERY, NEC
	4150		MISCELLANEOUS MACHINERY
		3532	MINING MACHINERY
		3533	OIL AND GAS FIELD MACHINERY
		3534	ELEVATORS AND MOVING STAIRWAYS
		3535	CONVEYORS AND CONVEYING EQUIPMENT
		3536	HOISTS, CRANES, AND MONORAIL
		3552	TEXTILE MACHINERY
		3553	WOODWORKING MACHINERY
		3554	PAPER INDUSTRIES MACHINERY
		3555	PRINTING TRADES MACHINERY
		3556	FOOD PRODUCTS MACHINERY
		3559	SPECIAL INDUSTRY MACHINERY, NEC
		3561	PUMPS AND PUMPING EQUIPMENT
		3562	BALL AND ROLLER BEARINGS
		3563	AIR AND GAS COMPRESSORS
		3564	BLOWERS AND FANS
		3565	PACKAGING MACHINERY
		3566	SPEED CHANGERS, DRIVES AND GEARS
		3567	INDUSTRIAL FURNACES AND OVENS
		3569	GENERAL INDUSTRIAL MACHINERY, NEC
		3581	AUTOMATIC VENDING MACHINES
		3582	COMMERCIAL LAUNDRY EQUIPMENT
		3585	REFRIGERATION AND HEATING EQUIPMENT
		3586	MEASURING AND DISPENSING PUMPS
		3589	SERVICE INDUSTRY MACHINES, NEC
		3593	FLUID POWER CYLINDERS AND ACTUATORS
		3594	FLUID POWER PUMPS AND MOTORS
		3599	INDUSTRIAL MACHINERY, NEC
	5110		FABRICATED METAL PRODUCTS
		3411	METAL CANS
		3412	METAL BARRELS, DRUMS, AND PAILS
		3421	CUTLERY
		3423	HAND AND EDGE TOOLS, NEC
		3425	HANDSAWS AND SAW BLADES
		3429	HARDWARE, NEC
		3431	METAL SANITARY WARE
		3432	PLUMBING FIXTURE FITTINGS AND TRIM
		3433	HEATING EQUIPMENT, EXCEPT ELECTRIC
		3441	FABRICATED STRUCTURAL METAL
		3442	METAL DOORS, SASH, AND TRIM
		3443	FABRICATED PLATE WORK (BOILER SHOPS)
		3444	SHEET METAL WORK
		3446	ARCHITECTURAL METAL WORK
		3448	PREFABRICATED METAL BUILDINGS

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		3449	MISCELLANEOUS METAL WORK
		3451	SCREW MACHINE PRODUCTS
		3452	BOLTS, NUTS, SCREWS, RIVETS AND WASHERS
		3466	CROWNS AND CLOSURES
		3469	METAL STAMPINGS, NEC
		3471	PLATING AND POLISHING
		3479	METAL COATING AND ALLIED SERVICES
		3482	SMALL ARMS AMMUNITION
		3483	AMMUNITION, EXC. SMALL ARMS, NEC
		3484	SMALL ARMS
		3489	ORDNANCE AND ACCESSORIES, NEC
		3491	INDUSTRIAL VALVES
		3492	FLUID POWER VALVES AND HOSE FITTINGS
		3493	STEEL SPRINGS, EXCEPT WIRE
		3494	VALVES AND PIPE FITTINGS, NEC
		3495	WIRE SPRINGS
		3496	MISCELLANEOUS FABRICATED WIRE PRODUCTS
		3497	METAL FOIL AND LEAF
		3498	FABRICATED PIPE AND FITTINGS
		3499	FABRICATED METAL PRODUCTS, NEC
	5120		FURNITURE
		2511	WOOD HOUSEHOLD FURNITURE
		2512	UPHOLSTERED HOUSEHOLD FURNITURE
		2514	METAL HOUSEHOLD FURNITURE
		2515	MATTRESSES AND BEDSPRINGS
		2517	WOOD TV AND RADIO CABINETS
		2519	HOUSEHOLD FURNITURE, NEC
		2521	WOOD OFFICE FURNITURE
		2522	OFFICE FURNITURE, EXCEPT WOOD
		2531	PUBLIC BUILDING AND RELATED FURNITURE
		2541	WOOD PARTITIONS AND FIXTURES
		2542	PARTITIONS AND FIXTURES, EXCEPT WOOD
		2591	DRAPERY HARDWARE, BLINDS, SHADES
		2599	FURNITURE AND FIXTURES, NEC
	5130		ACCESSORIES, TOYS, MISCELLANEOUS
		3911	JEWELRY, PRECIOUS METAL
		3914	SILVERWARE AND PLATED WARE
		3915	JEWELERS' MATERIALS AND LAPIDARY WORK
		3931	MUSICAL INSTRUMENTS
		3942	DOLLS AND STUFFED TOYS
		3944	GAMES, TOYS AND CHILDREN'S VEHICLES
		3949	SPORTING AND ATHLETIC GOODS, NEC
		3951	PENS AND MECHANICAL PENCILS
		3952	LEAD PENCILS AND ART GOODS
		3953	MARKING DEVICES
		3955	CARBON PAPER AND INKED RIBBONS
		3961	COSTUME JEWELRY
		3965	FASTENERS, BUTTONS, NEEDLES AND PINS
		3991	BROOMS AND BRUSHES

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		3993	SIGNS AND ADVERTISING SPECIALITIES
		3995	BURIAL CASKETS
		3996	HARD SURFACE FLOOR COVERINGS, NEC
		3999	MANUFACTURING INDUSTRIES, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
N1			LIFE INSURANCE CARRIERS
	1010		INSURANCE CARRIERS - LIFE
		6311	INSURANCE CARRIERS - LIFE
	1020		INSURANCE CARRIERS - HEALTH
		6321	INSURANCE CARRIERS - HEALTH AND ACCIDENT
	9987		LEASING CO. USER - NOT IBM CUSTOMER
N2			PROPERTY AND LIABILITY INSURANCE CARRIERS
	1030		INSURANCE CARRIERS - PROP/LIAB
		6331	INSURANCE CARRIERS - PROPERTY/LIABILITY
	1200		SURETY/BANK DEPOSIT INSURANCE
		6351	SURETY COMPANIES
	1300		TITLE INSURANCE
		6361	TITLE INSURANCE
		6541	TITLE ABSTRACT OFFICES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
N3			MEDICAL INSURANCE PLANS
	1100		HOSPITAL & MEDICAL SERVICE PLANS
		6324	HOSPITAL AND MEDICAL SERVICE PLANS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
N4			INSURANCE AGENTS AND BROKERS
	2000		INSURANCE AGENTS, BROKERS, AND SERVICE
		6411	INSURANCE AGENTS, BROKERS, AND SERVICE
	9987		LEASING CO. USER - NOT IBM CUSTOMER
N5			OTHER INSURANCE
	1350		PENSION FUNDS
		6371	PENSION, HEALTH AND WELFARE FUNDS
	1400		INSURANCE CARRIERS, NEC
		6399	INSURANCE CARRIERS, NEC
		873N	COMMERCIAL PHYSICAL RESEARCH, INSURANCE
	9987		LEASING CO. USER - NOT IBM CUSTOMER
P1			PRIMARY METALS
	1110		IRON & STEEL OPERATIONS
		3312	BLAST FURNACES AND STEEL MILLS
	1210		NONFERROUS METALS
		3331	PRIMARY COPPER
		3334	PRIMARY ALUMINUM
		3339	PRIMARY NONFERROUS METALS, NEC
		3341	SECONDARY NONFERROUS METALS

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		3351	COPPER ROLLING AND DRAWING
		3353	ALUMINUM SHEET, PLATE AND FOIL
		3354	ALUMINUM EXTRUDED PRODUCTS
		3355	ALUMINUM ROLLING AND DRAWING, NEC
		3356	NONFERROUS ROLLING AND DRAWING, NEC
		3357	NONFERROUS WIREDRAWING AND INSULATING
		3463	NONFERROUS FORGINGS
	1410		NONFERROUS FOUNDRIES
		3363	ALUMINUM DIE-CASTINGS
		3364	NONFERROUS DIE-CASTINGS, EXC. ALUMINUM
		3365	ALUMINUM FOUNDRIES
		3366	COPPER FOUNDRIES
		3369	NONFERROUS FOUNDRIES, NEC
	1420		FERROUS FOUNDRIES
		3321	GRAY AND DUCTILE IRON FOUNDRIES
		3322	MALLEABLE IRON FOUNDRIES
		3324	STEEL INVESTMENT FOUNDRIES
		3325	STEEL FOUNDRIES, NEC
	1510		PRIMARY METALS - MISCELLANEOUS
		3313	ELECTROMETALLURGICAL PRODUCTS
		3315	STEEL WIRE AND RELATED PRODUCTS
		3316	COLD FINISHING OF STEEL SHAPES
		3317	STEEL PIPE AND TUBES
		3398	METAL HEAT TREATING
		3399	PRIMARY METAL PRODUCTS, NEC
		3462	IRON AND STEEL FORGINGS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
P2			FOREST PRODUCTS
	3210		PAPER MANUFACTURERS
		2611	PULP MILLS
		2621	PAPER MILLS
		2631	PAPERBOARD MILLS
	3220		WOOD PROCESSING
		2411	LOGGING
		2421	SAWMILLS AND PLANING MILLS, GENERAL
		2426	HARDWOOD DIMENSION AND FLOORING MILLS
		2429	SPECIAL PRODUCT SAWMILLS, NEC
		2431	MILLWORK
		2435	HARDWOOD VENEER AND PLYWOOD
		2436	SOFTWOOD VENEER AND PLYWOOD
		2491	WOOD PRESERVING
		2493	RECONSTITUTED WOOD PRODUCTS
	4210		PAPER CONVERTORS
		2652	SETUP PAPERBOARD BOXES
		2653	CORRUGATED AND SOLID FIBER BOXES
		2655	FIBER CANS, DRUMS, AND SIMILIAR PRODUCTS
		2656	SANITARY FOOD CONTAINERS
		2657	FOLDING PAPERBOARD BOXES

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		2671	PAPER COATED AND LAMINATED, PACKAGING
		2672	PAPER COATED AND LAMINATED, NEC
		2673	BAGS: PLASTICS, LAMINATED AND COATED
		2674	BAGS: UNCOATED PAPER AND MULTIWALL
		2675	DIE-CUT PAPER AND BOARD
		2676	SANITARY PAPER PRODUCTS
		2677	ENVELOPES
		2678	STATIONARY PRODUCTS
		2679	CONVERTED PAPER PRODUCTS, NEC
	4220		WOOD PRODUCTS
		2434	WOOD KITCHEN CABINETS
		2439	STRUCTURAL WOOD MEMBERS, NEC
		2441	NAILED WOODEN BOXES AND SHOOK
		2448	WOOD PALLETS AND SKIDS
		2449	WOOD CONTAINERS, NEC
		2452	PREFABRICATED WOOD BUILDINGS
		2499	WOOD PRODUCTS, NEC
	4230		FORESTRY SERVICES
		0811	TIMBER TRACTS
		0831	FOREST PRODUCTS
		0851	FORESTRY SERVICES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
P3			RUBBER, GLASS AND MINERAL PRODUCTS
	3230		RUBBER PROCESSING
		3011	TIRES AND INNER TUBES
	3240		GLASS PROCESSING
		3211	FLAT GLASS
		3221	GLASS CONTAINERS
		3229	PRESSED AND BLOWN GLASS, NEC
	3250		MINERAL PROCESSING
		3241	CEMENT, HYDRAULIC
		3274	LIME
		3295	MINERALS, GROUND OR TREATED
	4310		RUBBER PRODUCTS
		3021	RUBBER AND PLASTICS FOOTWEAR
		3052	RUBBER AND PLASTICS HOSE AND BELTING
		3061	MECHANICAL RUBBER GOODS
		3069	FABRICATED RUBBER PRODUCTS, NEC
	4320		PLASTIC PRODUCTS
		3081	UNSUPPORTED PLASTICS FILM AND SHEET
		3082	UNSUPPORTED PLASTICS PROFILE SHAPES
		3083	LAMINATED PLASTICS PLATE AND SHEET
		3084	PLASTICS PIPE
		3085	PLASTICS BOTTLES
		3086	PLASTICS FOAM PRODUCTS
		3087	CUSTOM COMPOUND PURCHASED RESINS
		3088	PLASTICS PLUMBING FIXTURES
		3089	PLASTICS PRODUCTS, NEC

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
	4610		STONE AND CLAY PRODUCTS
		3053	GASKETS, PACKING AND SEALING DEVICES
		3231	PRODUCTS OF PURCHASED GLASS
		3251	BRICK AND STRUCTURAL CLAY TILE
		3253	CERAMIC WALL AND FLOOR TILE
		3255	CLAY REFRACTORIES
		3259	STRUCTURAL CLAY PRODUCTS, NEC
		3261	VITREOUS PLUMBING FIXTURES
		3262	VITREOUS CHINA TABLE AND KITCHENWARE
		3263	SEMIVITREOUS TABLE AND KITCHENWARE
		3264	PORCELAIN ELECTRICAL SUPPLIES
		3269	POTTERY PRODUCTS, NEC
		3271	CONCRETE BRICK AND BLOCK
		3272	CONCRETE PRODUCTS, NEC
		3273	READY-MIXED CONCRETE
		3275	GYPSUM PRODUCTS
		3281	CUT STONE AND STONE PRODUCTS
		3291	ABRASIVE PRODUCTS
		3292	ASBESTOS PRODUCTS
		3296	MINERAL WOOL
		3297	NONCLAY REFRACTORIES
		3299	NONMETALLIC MINERAL PRODUCTS, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
P4			TEXTILES
	4110		TEXTILES - WEAVING & FINISHING
		2211	BROADWOVEN FABRIC MILLS, COTTON
		2221	BROADWOVEN FABRIC MILLS, MANMADE
		2231	BROADWOVEN FABRIC MILLS, WOOL
		2261	FINISHING PLANTS, COTTON
		2262	FINISHING PLANTS, MANMADE
		2269	FINISHING PLANTS, NEC
	4120		TEXTILES - YARN & THREAD
		2281	YARN SPINNING MILLS
		2282	THROWING AND WINDING MILLS
		2284	THREAD MILLS
	4130		TEXTILES - FLOOR COVERINGS
		2273	CARPETS AND RUGS
	4140		TEXTILES - MISCELLANEOUS
		2241	NARROW FABRIC MILLS
		2257	WEFT KNIT FABRIC MILLS
		2258	LACE AND WARP KNIT FABRIC MILLS
		2295	COATED FABRICS, NOT RUBBERIZED
		2296	TIRE CORD AND FABRICS
		2297	NONWOVEN FABRICS
		2298	CORDAGE AND TWINE
		2299	TEXTILE GOODS, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER

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APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
P5			PHARMACEUTICALS
	8300		PHARMACEUTICALS
		2833	MEDICINALS AND BOTANICALS
		2834	PHARMACEUTICAL PREPARATIONS
		2835	DIAGNOSTIC SUBSTANCES
		2836	BIOLOGICAL PRODUCTS, EXC. DIAGNOSTIC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
P6			CONSUMER GOODS AND AGRIBUSINESS
	7010		COMMODITY PROCESSORS
		2041	FLOUR AND OTHER GRAIN MILL PRODUCTS
		2043	CEREAL BREAKFAST FOODS
		2044	RICE MILLING
		2045	PREPARED FLOUR MIXES AND DOUGHS
		2046	WET CORN MILLING
		2047	PET FOOD
		2048	PREPARED FEEDS, NEC
		2061	RAW CANE SUGAR
		2062	CANE SUGAR REFINING
		2063	BEET SUGAR
		2066	CHOCOLATE AND COCOA PRODUCTS
		2095	ROASTED COFFEE
	7020		MEAT & FISH PRODUCTS
		2011	MEAT PACKING PLANTS
		2013	SAUSAGES AND OTHER PREPARED MEATS
		2015	POULTRY SLAUGHTERING AND PROCESSING
		2091	CANNED AND CURED FISH AND SEAFOOD
		2092	FRESH OR FROZEN PREPARED FISH
	7030		FOOD MANUFACTURERS
		2021	CREAMERY BUTTER
		2022	CHEESE, NATURAL AND PROCESSED
		2023	DRY, CONDENSED, EVAPORATED PRODUCTS
		2024	ICE CREAM AND FROZEN DESSERTS
		2026	FLUID MILK
		2034	DEHYDRATED FRUITS, VEGETABLES, SOUPS
		2035	PICKLES, SAUCES, AND SALAD DRESSINGS
		2051	BREAD, CAKE, AND RELATED PRODUCTS
		2052	COOKIES AND CRACKERS
		2053	FROZEN BAKERY PRODUCTS, EXC. BREAD
		2064	CANDY AND OTHER CONFECTIONARY PRODUCTS
		2067	CHEWING GUM
		2068	SALTED AND ROASTED NUTS AND SEEDS
		2074	COTTONSEED OIL MILLS
		2075	SOYBEAN OIL MILLS
		2076	VEGETABLE OIL MILLS, NEC
		2077	ANIMAL AND MARINE FATS AND OILS
		2079	EDIBLE FATS AND OILS, NEC
		2086	BOTTLED AND CANNED SOFT DRINKS
		2087	FLAVORING EXTRACTS AND SYRUPS, NEC

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		2096	POTATO CHIPS, CORN CHIPS AND SIMILAR SNACKS
		2097	MANUFACTURED ICE
		2098	MACARONI AND SPAGHETTI
		2099	FOOD PREPARATIONS, NEC
	7040		FRUIT & VEGETABLE PRODUCTS
		2032	CANNED SPECIALTIES
		2033	CANNED FRUITS AND VEGETABLES
		2037	FROZEN FRUITS AND VEGETABLES
		2038	FROZEN SPECIALTIES, NEC
	7100		DISTILLERS
		2082	MALT BEVERAGES
		2083	MALT
		2084	WINES, BRANDY, AND BRANDY SPIRITS
		2085	DISTILLED AND BLENDED LIQUOR
	7120		TOBACCO MANUFACTURERS
		2111	CIGARETTES
		2121	CIGARS
		2131	CHEWING AND SMOKING TOBACCO
		2141	TOBACCO STEMMING AND REDRYING
	7500		INTEGRATED CROPS
		0111	WHEAT
		0112	RICE
		0115	CORN
		0116	SOYBEANS
		0119	CASH GRAINS, NEC.
		0131	COTTON
		0132	TOBACCO
		0133	SUGAR CANE AND SUGAR BEETS
		0134	IRISH POTATOES
		0139	FIELD CROPS, EXCEPT CASH GRAINS, NEC
		0161	VEGETABLES AND MELONS
		0171	BERRY CROPS
		0172	GRAPES
		0173	TREE NUTS
		0174	CITRUS FRUITS
		0175	DECIDUOUS TREE FRUITS
		0179	FRUITS AND TREE NUTS, NEC
		0181	ORNAMENTAL NURSERY PRODUCTS
		0182	FOOD CROPS GROWN UNDER COVER
		0191	GENERAL FARMS, PRIMARILY CROP
	7510		LIVESTOCK & SERVICES
		0211	BEEF CATTLE FEEDLOTS
		0212	BEEF CATTLE, EXCEPT FEEDLOTS
		0213	HOGS
		0214	SHEEP AND GOATS
		0219	GENERAL LIVESTOCK, NEC
		0241	DAIRY FARMS
		0251	BROILER, FRYER, AND ROASTER CHICKENS
		0252	CHICKEN EGGS

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		0253	TURKEYS AND TURKEY EGGS
		0254	POULTRY HATCHERIES
		0259	POULTRY AND EGGS, NEC
		0271	FUR-BEARING ANIMALS AND RABBITS
		0272	HORSES AND OTHER EQUINES
		0273	ANIMAL AQUACULTURE
		0279	ANIMAL SPECIALTIES, NEC
		0291	GENERAL FARMS, PRIMARILY ANIMAL
		0741	VETERINARY SERVICES FOR LIVESTOCK
		0742	VETERINARY SERVICES, SPECIALITIES
		0751	LIVESTOCK SERVICES, EXCEPT VETERINARY
		0752	ANIMAL SPECIALTY SERVICES
		0912	FINFISH
		0913	SHELLFISH
		0919	MISCELLANEOUS MARINE PRODUCTS
		0921	FISH HATCHERIES AND PRESERVES
		0971	HUNTING, TRAPPING, GAME PROPAGATION
	7520		CROP SERVICES - PRODUCTION & MARKETING
		0722	CROP HARVESTING
		0723	CROP PREPARATION SERVICES FOR MARKET
		0724	COTTON GINNING
		0781	LANDSCAPE COUNSELING AND PLANNING
		0782	LAWN AND GARDEN SERVICES
		0783	ORNAMENTAL SHRUB AND TREE SERVICES
	7530		FARMER COOPS & AGRICULTURAL SERVICES
		0711	SOIL PREPARATION SERVICES
		0721	CROP PLANTING AND PROTECTING
		0761	FARM LABOR CONTRACTORS
		0762	FARM MANAGEMENT SERVICES
	8340		SOAPS
		2841	SOAP AND OTHER DETERGENTS
		2842	POLISHES AND SANITATION GOODS
		2843	SURFACE ACTIVE AGENTS
	8350		COSMETICS
		2844	TOILET PREPARATIONS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
P7			PETROLEUM
	7120		INDEPENDENT PRODUCERS
		1311	CRUDE PETROLEUM AND NATURAL GAS
		1321	NATURAL GAS LIQUIDS
	7130		REFINING & PETROLEUM PRODUCTS
		2911	PETROLEUM REFINING
		2951	ASPHALT PAVING MIXTURES AND BLOCKS
		2952	ASPHALT FELTS AND COATINGS
		2992	LUBRICATING OILS AND GREASES
		2999	PRODUCTS OF PETROLEUM AND COAL, NEC
	7140		EXPLORATION COMPANIES & FIELD SERVICES
		1381	DRILLING OIL AND GAS WELLS

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		1382	OIL AND GAS EXPLORATION SERVICES
		1389	OIL AND GAS FIELD SERVICES, NEC
	7150		WHOLESALE PETROLEUM, BULK PLANTS & SERVICES
		5171	PETROLEUM BULK STATIONS AND TERMINALS
		5172	PETROLEUM PRODUCTS, NEC
		5541	GASOLINE SERVICE STATIONS
	7210		PIPELINES
		4612	CRUDE PETROLEUM PIPELINES
		4613	REFINED PETROLEUM PIPELINES
		4619	PIPELINES, NEC
		4922	NATURAL GAS TRANSMISSION
	9987		LEASING CO. USER - NOT IBM CUSTOMER
P8			CHEMICALS
	8110		CHEMICALS
		2812	ALKALIES AND CHLORINE
		2813	INDUSTRIAL GASES
		2816	INORGANIC PIGMENTS
		2819	INDUSTRIAL INORGANIC CHEMICALS, NEC
		2821	PLASTICS MATERIALS AND RESINS
		2822	SYNTHETIC RUBBER
		2823	CELLULOSIC MANMADE FIBERS
		2824	ORGANIC FIBERS, NONCELLULOSIC
		2861	GUM AND WOOD CHEMICALS
		2865	CYCLIC CRUDES AND INTERMEDIATES
		2869	INDUSTRIAL ORGANIC CHEMICALS, NEC
		2873	NITROGENOUS FERTILIZERS
		2874	PHOSPHATIC FERTILIZERS
		2875	FERTILIZERS, MIXING ONLY
		2879	AGRICULTURAL CHEMICALS, NEC
		2891	ADHESIVES AND SEALANTS
		2892	EXPLOSIVES
		2893	PRINTING INK
		2895	CARBON BLACK
		2899	CHEMICAL PREPARATIONS, NEC
	8220		PAINT
		2851	PAINTS AND ALLIED PRODUCTS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
P9			MINING
	1310		MINING AND COAL
		1011	IRON ORES
		1021	COPPER ORES
		1031	LEAD AND ZINC ORES
		1041	GOLD ORES
		1044	SILVER ORES
		1061	FERROALLOY ORES, EXCEPT VANADIUM
		1081	METAL MINING SERVICES
		1094	URANIUM - RADIUM - VANADIUM ORES

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		1099	METALLIC ORES, NEC
		1221	BITUMINOUS COAL AND LIGNITE - SURFACE
		1222	BITUMINOUS COAL - UNDERGROUND
		1231	ANTHRACITE MINING
		1241	COAL MINING SERVICES
		1411	DIMENSION STONE
		1422	CRUSHED AND BROKEN LIMESTONE
		1423	CRUSHED AND BROKEN GRANITE
		1429	CRUSHED AND BROKEN STONE, NEC
		1442	CONSTRUCTION SAND AND GRAVEL
		1446	INDUSTRIAL SAND
		1455	KAOLIN AND BALL CLAY
		1459	CLAY AND RELATED MATERIALS, NEC
		1474	POTASH, SODA, AND BORATE MINERALS
		1475	PHOSPHATE ROCK
		1479	CHEMICAL AND FERTILIZER MINING, NEC
		1481	NONMETALLIC MINERALS SERVICES
		1499	MISCELLANEOUS NONMETALLIC MINERALS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
R1			ELEMENTARY AND SECONDARY SCHOOLS
	3100		ELEMENTARY & SECONDARY SCHOOLS
		821A	ELEM/SEC SCHOOLS - PRIVATE AND PAROCHIAL
		8211	ELEMENTARY/SECONDARY SCHOOLS - PUBLIC
		942R	ELEMENTARY/SECONDARY SCHOOLS, STATE ENTERPRISE
		952R	ELEMENTARY/SECONDARY SCHOOLS, COUNTY ENTERPRISE
		962R	ELEMENTARY/SECONDARY SCHOOLS, CITY ENTERPRISE
	9987		LEASING CO. USER - NOT IBM CUSTOMER
R2			VOCATIONAL SCHOOLS - NON PROFIT
	3900		POST HIGH/VOCATIONAL SCHOOLS - NON PROFIT
		821C	POST HIGH/VOC SCHOOLS - NON PROFIT
		942V	VOCATIONAL SCHOOLS, STATE ENTERPRISE
		952V	VOCATIONAL SCHOOLS, COUNTY ENTERPRISE
		962V	VOCATIONAL SCHOOLS, CITY ENTERPRISE
	9987		LEASING CO. USER - NOT IBM CUSTOMER
R3			CORRES., BUS., VOC. SCHOOLS-PROFIT MAKING
	5000		NON DP VOCATIONAL SCHOOLS - PROFITMAKING
		8244	BUSINESS & SECRETATIAL SCHOOLS, EXCL- DP
		8249	VOCATIONAL SCHOOLS, NEC - PROFIT MAKING
	5100		EDUCATIONAL RESEARCH, NEC
		8331	JOB TRAINING AND RELEATED SERVICES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
R4			REGIONAL SCHOOL CENTERS
	5300		REGIONAL SCHOOL CENTERS
		821B	ELEM/SEC SCHOOLS - REGIONAL CENTERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL R5	CATG CODE	SIC CODE	DESCRIPTION
			EDUCATIONAL - OTHER
	5100		MISCELLANEOUS EDUCATION
		731R	PURCHASING AGENCIES, ELEM/SEC/VOC SCHOOLS
		942A	STATE BD OF EDUCATION (K-12 ONLY)
	9987		LEASING CO. USER - NOT IBM CUSTOMER
S1			BROKERS/DEALERS
	1100		STOCK BROKERS
		6211	SECURITY BROKERS AND DEALERS
	1130		COMMODITY BROKERS
		6221	COMMODITY CONTRACTS BROKERS AND DEALERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
S2			EXCHANGES
	2100		SECURITY EXCHANGES
		6231	SECURITY EXCHANGES
	2120		SERVICES ALLIED WITH EXCHANGES
		6282	INVESTMENT ADVICE
		6289	SECURITY AND COMMODITY SERVICES, NEC
	2130		COMMODITY EXCHANGES
		623A	COMMODITY EXCHANGES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
S3			INVESTMENTS
	3140		INVESTMENT COMPANIES
		6726	INVESTMENT OFFICES, NEC
		6732	EDUCATIONAL, RELIGIOUS, ETC. TRUSTS
		6733	TRUSTS, NEC
		6792	OIL ROYALTY TRADERS
		6794	PATENT OWNERS AND LESSORS
		6799	INVESTING INSTITUTIONS, NEC
	3150		MUTUAL FUNDS
		6722	MANAGEMENT INVESTMENT COS., OPEN-END
	9987		LEASING CO. USER - NOT IBM CUSTOMER
TA			AUTO RENTAL SERVICES
	1300		AUTO RENTALS
		7514	PASSENGER CAR RENTAL
		7515	PASSENGER CAR LEASING
	9987		LEASING CO. USER - NOT IBM CUSTOMER
TB			TRAVEL AGENCIES/TOUR OPERATORS
	1310		PASSENGER TRANSPORTATION ARRANGEMENT
		4724	TRAVEL AGENCIES
		4725	TOUR OPERATORS
		4729	PASSENGER TRANSPORTATION ARRANGEMENT, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
TC			TRUCK/TRAILER RENTALS
	1320		TRUCK / TRAILER RENTALS
		7513	TRUCK RENTAL AND LEASING
		7519	UTILITY TRAILER AND RV RENTAL
	9987		LEASING CO. USER - NOT IBM CUSTOMER
TD			WATER TRANSPORTATION, PASSENGER
	5100		DEEP SEA
		4481	DEEP SEA PASSENGER TRANSPORTATION, EXC. FERRY
	5300		INLAND AND LOCAL
		4482	FERRIES
		4489	WATER PASSENGER TRANSPORTATION, NEC
	5400		WATER TRANSPORTATION SERVICES
		4493	MARINAS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
TE			AIRLINES, FREIGHT
	7930		AIR FREIGHT FORWARDING
		451A	AIR FREIGHT TRANSPORTATION
		4513	AIR COURIER SERVICES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
T1			OTHER TRANSPORTATION SERVICES
	1100		FREIGHT FORWARDERS (GROUND)
		4731	FREIGHT TRANSPORTATION ARRANGEMENT
	1200		RAILROAD CAR RENTALS
		4741	RENTAL OF RAILROAD CARS
	1500		OTHER SERVICES
		4783	PACKING AND CRATING
		4785	INSPECTION AND FIXED FACILITIES
		4789	TRANSPORTATION SERVICES, NEC
		873T	COMMERCIAL PHYSICAL RESEARCH, TRANSPORTATION
	1600		PUBLIC WAREHOUSING & TERMINALS
		4221	FARM PRODUCT WAREHOUSING AND STORAGE
		4222	REFRIGERATED WAREHOUSING AND STORAGE
		4225	GENERAL WAREHOUSING AND STORAGE
		4226	SPECIAL WAREHOUSING AND STORAGE, NEC
		4231	TRUCKING TERMINAL FACILITIES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
T2			MOTOR FREIGHT
	2100		MOTOR FREIGHT
		4212	LOCAL TRUCKING, WITHOUT STORAGE
		4213	TRUCKING, EXCEPT LOCAL
		4214	LOCAL TRUCKING, WITH STORAGE
		4215	COURIER SERVICES, EXCEPT BY AIR
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
T3			RAILROADS, FREIGHT
	3000		SWITCHING
		4013	SWITCHING AND TERMINAL SERVICES, FREIGHT
	3100		LINE-HAUL RAILROADS
		4011	RAILROADS, LINE-HAUL OPERATING, FREIGHT
	9987		LEASING CO. USER - NOT IBM CUSTOMER
T4			LOCAL & HIGHWAY PASSENGER TRANSPORTATION
	4110		TAXI, SCHOOL BUS, CHARTER & OTHER
		4119	LOCAL PASSENGER TRANSPORTATION, NEC
		4121	TAXICABS
		4141	LOCAL BUS CHARTER SERVICE
		4142	BUS CHARTER SERVICE, EXCEPT LOCAL
		4151	SCHOOL BUSES
	4120		INTERCITY BUS
		4131	INTERCITY AND RURAL BUS TRANSPORTATION
	4130		TRANSPORT MOTOR VEHICLE SERVICES
		4173	BUS TERMINAL AND SERVICE FACILITIES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
T5			WATER TRANSPORTATION, FREIGHT
	5100		DEEP SEA
		4412	DEEP SEA FOREIGN TRANSPORTATION OF FREIGHT
	5200		COASTAL, INTERCOASTAL & TERRITORIAL
		4424	DEEP SEA DOMESTIC TRANSPORTATION OF FREIGHT
	5300		INLAND & LOCAL
		4432	FREIGHT TRANSPORTATION ON THE GREAT LAKES
		4449	WATER TRANSPORTATION OF FREIGHT, NEC
		4492	TOWING AND TUGBOAT SERVICE
	5400		WATER TRANSPORTATION SERVICES
		4491	MARINE CARGO HANDLING
		4499	WATER TRANSPORTATION SERVICES, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
T6			TRANSIT & AUTO PARKING
	6000		TRANSIT
		4111	LOCAL AND SUBURBAN TRANSIT
	6100		AUTO PARKING
		7521	AUTOMOBILE PARKING
	9987		LEASING CO. USER - NOT IBM CUSTOMER
T7			AIRLINES, PASSENGER
	7010		AMERICAN DOMESTIC/INTNTL. CARRIERS
		4512	PASSENGER AIR TRANSPORTATION, SCHEDULED
	7830		NONCERTIFIED AIR TRANSPORTATION
		4522	PASSENGER AIR TRANSPORTATION, NONSCHEDULED
	7910		AIRPORTS AND FLYING FIELDS
		4581	AIRPORTS, FLYING FIELDS, & SVCS (EXC. MUNICIPAL)
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
T8			RAILROADS, PASSENGER
	3070		SWITCHING
		401B	SWITCHING AND TERMINAL SERVICES, PASSENGER
	3080		LINE-HAUL RAILROADS
		401A	RAILROADS, LINE-HAUL OPERATING, PASSENGER
	9987		LEASING CO. USER - NOT IBM CUSTOMER
U1			UTILITIES, GAS
	2000		GAS TRANSMISSION AND DISTRIBUTION
		4923	GAS TRANSMISSION AND DISTRIBUTION
	2001		GAS AND OTHER SERVICES COMBINED
		4932	GAS AND OTHER SERVICES COMBINED
	2010		NATURAL GAS DISTRIBUTION
		4924	NATURAL GAS DISTRIBUTION
	2020		GAS PRODUCTION AND/OR DISTRIBUTION
		4925	GAS PRODUCTION AND/OR DISTRIBUTION
	9987		LEASING CO. USER - NOT IBM CUSTOMER
U2			UTILITIES, ELECTRIC
	1000		ELECTRIC (ONLY) SERVICES
		4911	ELECTRIC COMPANIES AND SYSTEMS
	1001		ELECTRIC AND OTHER SERVICES COMBINED
		4931	ELECTRIC AND OTHER SERVICES COMBINED
	9987		LEASING CO. USER - NOT IBM CUSTOMER
U3			UTILITIES, COMBINATION
	3001		COMBINATION UTILITY SYSTEMS, NEC
		4939	COMBINATION UTILITIES, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
U4			OTHER UTILITIES
	4000		WATER SUPPLY
		4941	WATER SUPPLY
	6000		STEAM SUPPLY
		4961	STEAM SUPPLY
	7000		IRRIGATION SYSTEMS
		4971	IRRIGATION SYSTEMS
	9000		R & D LABORATORIES, UTILITIES
		873U	COMMERCIAL PHYSICAL RESEARCH, UTILITIES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
U5			UTILITIES, GOVERNMENT
	1000		ELECTRIC (ONLY) SERVICES
		491B	ELECTRIC COMPANIES AND SYSTEMS
	1001		ELECTRIC AND OTHER SERVICES COMBINED
		493A	ELECTRIC AND OTHER SERVICES COMBINED
	2000		GAS TRANSMISSION AND DISTRIBUTION
		492C	GAS TRANSMISSION AND DISTRIBUTION
	2001		GAS AND OTHER SERVICES COMBINED

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		493B	GAS AND OTHER SERVICES COMBINED
	2010		NATURAL GAS DISTRIBUTION
		492D	NATURAL GAS DISTRIBUTION
	2020		GAS PRODUCTION AND/OR DISTRIBUTION
		492E	GAS PRODUCTION AND/OR DISTRIBUTION
	3001		COMBINATION UTILITY SYSTEMS, NEC
		493G	COMBINATION COMPANIES & SYSTEMS, NEC
	4000		WATER SUPPLY
		494A	WATER SUPPLY
	5010		SEWERAGE SYSTEMS
		495B	SEWERAGE SYSTEMS
	5020		REFUSE SYSTEMS
		495C	REFUSE SYSTEMS
	5030		SANITARY SERVICES, NEC
		495G	SANITARY SERVICES, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
U6			UTILITIES, WASTE
	5010		SEWERAGE SYSTEMS
		4952	SEWERAGE SYSTEMS
	5020		REFUSE SYSTEMS
		4953	REFUSE SYSTEMS
	5030		SANITARY SERVICES, NEC
		4959	SANITARY SERVICES, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
U7			RURAL ELECTRIC COOP.
	1000		RURAL ELECTRIC ASSOCIATIONS (CO-OPS)
		491A	RURAL ELECTRIC ASSOCIATIONS (CO-OPS)
	9987		LEASING CO. USER - NOT IBM CUSTOMER
W1			DP LEASING COMPANIES
	3000		EQUIPMENT RENTAL & LEASING SERVICES
		7377	COMPUTER RENTAL AND LEASING
	9987		LEASING CO. USER - NOT IBM CUSTOMER
W2			DP EQUIPMENT BROKERS/DEALERS
	1000		DP EQUIPMENT BROKERS/DEALERS
		737K	BROKERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
W3			DP MAINTENANCE COMPANIES
	5000		DP MAINTENANCE COMPANIES
		7378	COMPUTER MAINTENANCE AND REPAIR
	9987		LEASING CO. USER - NOT IBM CUSTOMER
W4			CUSTOMER SPECULATIVE - SPLIT ENTERPRISE
	2000		CUSTOMER SPECULATIVE - SPLIT ENTERPRISE
		737S	SPECULATIVE CUSTOMERS

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
	9987		LEASING CO. USER - NOT IBM CUSTOMER
X2			DOMESTIC ORDERS - OVERSEAS DESTINATION
	9000		DOMESTIC ORDERS-OVERSEAS DESTINATION
		9997	DOMESTIC ORDERS-OVERSEAS DESTINATION
	9987		LEASING CO. USER - NOT IBM CUSTOMER
YA			FOREIGN AFFAIRS/SPECIAL OPS
	8620		INTELLIGENCE
		9186	CMU SPECIAL
	8920		CIA
		9199	CIA
	8930		STATE DEPARTMENT
		9201	STATE DEPT.
	8960		AID/OTHER
		9234	AID/OTHER
	9987		LEASING CO. USER - NOT IBM CUSTOMER
YB			NASA
	8020		NASA NATIONAL
		9020	NASA SPACE SCIENCE
		9021	NASA RESEARCH
		9022	NASA MANNED SPACE
		9142	NASA HQ
	8170		NASA/GODDARD
		9027	NASA GODDARD (WASH. D.C. ONLY)
	8260		NASA SPACE STATION
		9056	NASA SPACE STATION
	9987		LEASING CO. USER - NOT IBM CUSTOMER
YC			ENERGY/TVA/COMMERCE
	8030		DOE
		9023	ERDA/CONTR
		9028	ENERGY INFO. ADMIN.
		9244	DOE HQ-AD
	8040		NUCLEAR REG. COMM.
		9007	NRC
	8100		COMMERCE
		9015	COMMERCE
		9016	NOAA
		9053	CENSUS/PAT/NBS
	8150		TENN VALLEY AUTH (REMOTE)
		9026	TVA
	8190		OFFICE OF PERSONNEL MGT.
		9031	OPM
	8200		EDUCATION
		9033	EDUCATION
	8250		EPA
		9018	EPA

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		3449	MISCELLANEOUS METAL WORK
		3451	SCREW MACHINE PRODUCTS
		3452	BOLTS, NUTS, SCREWS, RIVETS AND WASHERS
		3466	CROWNS AND CLOSURES
		3469	METAL STAMPINGS, NEC
		3471	PLATING AND POLISHING
		3479	METAL COATING AND ALLIED SERVICES
		3482	SMALL ARMS AMMUNITION
		3483	AMMUNITION, EXC. SMALL ARMS, NEC
		3484	SMALL ARMS
		3489	ORDNANCE AND ACCESSORIES, NEC
		3491	INDUSTRIAL VALVES
		3492	FLUID POWER VALVES AND HOSE FITTINGS
		3493	STEEL SPRINGS, EXCEPT WIRE
		3494	VALVES AND PIPE FITTINGS, NEC
		3495	WIRE SPRINGS
		3496	MISCELLANEOUS FABRICATED WIRE PRODUCTS
		3497	METAL FOIL AND LEAF
		3498	FABRICATED PIPE AND FITTINGS
		3499	FABRICATED METAL PRODUCTS, NEC
	5120		FURNITURE
		2511	WOOD HOUSEHOLD FURNITURE
		2512	UPHOLSTERED HOUSEHOLD FURNITURE
		2514	METAL HOUSEHOLD FURNITURE
		2515	MATTRESSES AND BEDSPRINGS
		2517	WOOD TV AND RADIO CABINETS
		2519	HOUSEHOLD FURNITURE, NEC
		2521	WOOD OFFICE FURNITURE
		2522	OFFICE FURNITURE, EXCEPT WOOD
		2531	PUBLIC BUILDING AND RELATED FURNITURE
		2541	WOOD PARTITIONS AND FIXTURES
		2542	PARTITIONS AND FIXTURES, EXCEPT WOOD
		2591	DRAPERY HARDWARE, BLINDS, SHADES
		2599	FURNITURE AND FIXTURES, NEC
	5130		ACCESSORIES, TOYS, MISCELLANEOUS
		3911	JEWELRY, PRECIOUS METAL
		3914	SILVERWARE AND PLATED WARE
		3915	JEWELERS' MATERIALS AND LAPIDARY WORK
		3931	MUSICAL INSTRUMENTS
		3942	DOLLS AND STUFFED TOYS
		3944	GAMES, TOYS AND CHILDREN'S VEHICLES
		3949	SPORTING AND ATHLETIC GOODS, NEC
		3951	PENS AND MECHANICAL PENCILS
		3952	LEAD PENCILS AND ART GOODS
		3953	MARKING DEVICES
		3955	CARBON PAPER AND INKED RIBBONS
		3961	COSTUME JEWELRY
		3965	FASTENERS, BUTTONS, NEEDLES AND PINS
		3991	BROOMS AND BRUSHES

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		3993	SIGNS AND ADVERTISING SPECIALITIES
		3995	BURIAL CASKETS
		3996	HARD SURFACE FLOOR COVERINGS, NEC
		3999	MANUFACTURING INDUSTRIES, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
N1			LIFE INSURANCE CARRIERS
	1010		INSURANCE CARRIERS - LIFE
		6311	INSURANCE CARRIERS - LIFE
	1020		INSURANCE CARRIERS - HEALTH
		6321	INSURANCE CARRIERS - HEALTH AND ACCIDENT
	9987		LEASING CO. USER - NOT IBM CUSTOMER
N2			PROPERTY AND LIABILITY INSURANCE CARRIERS
	1030		INSURANCE CARRIERS - PROP/LIAB
		6331	INSURANCE CARRIERS - PROPERTY/LIABILITY
	1200		SURETY/BANK DEPOSIT INSURANCE
		6351	SURETY COMPANIES
	1300		TITLE INSURANCE
		6361	TITLE INSURANCE
		6541	TITLE ABSTRACT OFFICES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
N3			MEDICAL INSURANCE PLANS
	1100		HOSPITAL & MEDICAL SERVICE PLANS
		6324	HOSPITAL AND MEDICAL SERVICE PLANS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
N4			INSURANCE AGENTS AND BROKERS
	2000		INSURANCE AGENTS, BROKERS, AND SERVICE
		6411	INSURANCE AGENTS, BROKERS, AND SERVICE
	9987		LEASING CO. USER - NOT IBM CUSTOMER
N5			OTHER INSURANCE
	1350		PENSION FUNDS
		6371	PENSION, HEALTH AND WELFARE FUNDS
	1400		INSURANCE CARRIERS, NEC
		6399	INSURANCE CARRIERS, NEC
		873N	COMMERCIAL PHYSICAL RESEARCH, INSURANCE
	9987		LEASING CO. USER - NOT IBM CUSTOMER
P1			PRIMARY METALS
	1110		IRON & STEEL OPERATIONS
		3312	BLAST FURNACES AND STEEL MILLS
	1210		NONFERROUS METALS
		3331	PRIMARY COPPER
		3334	PRIMARY ALUMINUM
		3339	PRIMARY NONFERROUS METALS, NEC
		3341	SECONDARY NONFERROUS METALS

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		3351	COPPER ROLLING AND DRAWING
		3353	ALUMINUM SHEET, PLATE AND FOIL
		3354	ALUMINUM EXTRUDED PRODUCTS
		3355	ALUMINUM ROLLING AND DRAWING, NEC
		3356	NONFERROUS ROLLING AND DRAWING, NEC
		3357	NONFERROUS WIREDRAWING AND INSULATING
		3463	NONFERROUS FORGINGS
	1410		NONFERROUS FOUNDRIES
		3363	ALUMINUM DIE-CASTINGS
		3364	NONFERROUS DIE-CASTINGS, EXC. ALUMINUM
		3365	ALUMINUM FOUNDRIES
		3366	COPPER FOUNDRIES
		3369	NONFERROUS FOUNDRIES, NEC
	1420		FERROUS FOUNDRIES
		3321	GRAY AND DUCTILE IRON FOUNDRIES
		3322	MALLEABLE IRON FOUNDRIES
		3324	STEEL INVESTMENT FOUNDRIES
		3325	STEEL FOUNDRIES, NEC
	1510		PRIMARY METALS - MISCELLANEOUS
		3313	ELECTROMETALLURGICAL PRODUCTS
		3315	STEEL WIRE AND RELATED PRODUCTS
		3316	COLD FINISHING OF STEEL SHAPES
		3317	STEEL PIPE AND TUBES
		3398	METAL HEAT TREATING
		3399	PRIMARY METAL PRODUCTS, NEC
		3462	IRON AND STEEL FORGINGS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
P2			FOREST PRODUCTS
	3210		PAPER MANUFACTURERS
		2611	PULP MILLS
		2621	PAPER MILLS
		2631	PAPERBOARD MILLS
	3220		WOOD PROCESSING
		2411	LOGGING
		2421	SAWMILLS AND PLANING MILLS, GENERAL
		2426	HARDWOOD DIMENSION AND FLOORING MILLS
		2429	SPECIAL PRODUCT SAWMILLS, NEC
		2431	MILLWORK
		2435	HARDWOOD VENEER AND PLYWOOD
		2436	SOFTWOOD VENEER AND PLYWOOD
		2491	WOOD PRESERVING
		2493	RECONSTITUTED WOOD PRODUCTS
	4210		PAPER CONVERTORS
		2652	SETUP PAPERBOARD BOXES
		2653	CORRUGATED AND SOLID FIBER BOXES
		2655	FIBER CANS, DRUMS, AND SIMILIAR PRODUCTS
		2656	SANITARY FOOD CONTAINERS
		2657	FOLDING PAPERBOARD BOXES

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		2671	PAPER COATED AND LAMINATED, PACKAGING
		2672	PAPER COATED AND LAMINATED, NEC
		2673	BAGS: PLASTICS, LAMINATED AND COATED
		2674	BAGS: UNCOATED PAPER AND MULTIWALL
		2675	DIE-CUT PAPER AND BOARD
		2676	SANITARY PAPER PRODUCTS
		2677	ENVELOPES
		2678	STATIONARY PRODUCTS
		2679	CONVERTED PAPER PRODUCTS, NEC
	4220		WOOD PRODUCTS
		2434	WOOD KITCHEN CABINETS
		2439	STRUCTURAL WOOD MEMBERS, NEC
		2441	NAILED WOODEN BOXES AND SHOOK
		2448	WOOD PALLETS AND SKIDS
		2449	WOOD CONTAINERS, NEC
		2452	PREFABRICATED WOOD BUILDINGS
		2499	WOOD PRODUCTS, NEC
	4230		FORESTRY SERVICES
		0811	TIMBER TRACTS
		0831	FOREST PRODUCTS
		0851	FORESTRY SERVICES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
P3			RUBBER, GLASS AND MINERAL PRODUCTS
	3230		RUBBER PROCESSING
		3011	TIRES AND INNER TUBES
	3240		GLASS PROCESSING
		3211	FLAT GLASS
		3221	GLASS CONTAINERS
		3229	PRESSED AND BLOWN GLASS, NEC
	3250		MINERAL PROCESSING
		3241	CEMENT, HYDRAULIC
		3274	LIME
		3295	MINERALS, GROUND OR TREATED
	4310		RUBBER PRODUCTS
		3021	RUBBER AND PLASTICS FOOTWEAR
		3052	RUBBER AND PLASTICS HOSE AND BELTING
		3061	MECHANICAL RUBBER GOODS
		3069	FABRICATED RUBBER PRODUCTS, NEC
	4320		PLASTIC PRODUCTS
		3081	UNSUPPORTED PLASTICS FILM AND SHEET
		3082	UNSUPPORTED PLASTICS PROFILE SHAPES
		3083	LAMINATED PLASTICS PLATE AND SHEET
		3084	PLASTICS PIPE
		3085	PLASTICS BOTTLES
		3086	PLASTICS FOAM PRODUCTS
		3087	CUSTOM COMPOUND PURCHASED RESINS
		3088	PLASTICS PLUMBING FIXTURES
		3089	PLASTICS PRODUCTS, NEC

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
	4610		STONE AND CLAY PRODUCTS
		3053	GASKETS, PACKING AND SEALING DEVICES
		3231	PRODUCTS OF PURCHASED GLASS
		3251	BRICK AND STRUCTURAL CLAY TILE
		3253	CERAMIC WALL AND FLOOR TILE
		3255	CLAY REFRACTORIES
		3259	STRUCTURAL CLAY PRODUCTS, NEC
		3261	VITREOUS PLUMBING FIXTURES
		3262	VITREOUS CHINA TABLE AND KITCHENWARE
		3263	SEMIVITREOUS TABLE AND KITCHENWARE
		3264	PORCELAIN ELECTRICAL SUPPLIES
		3269	POTTERY PRODUCTS, NEC
		3271	CONCRETE BRICK AND BLOCK
		3272	CONCRETE PRODUCTS, NEC
		3273	READY-MIXED CONCRETE
		3275	GYPSUM PRODUCTS
		3281	CUT STONE AND STONE PRODUCTS
		3291	ABRASIVE PRODUCTS
		3292	ASBESTOS PRODUCTS
		3296	MINERAL WOOL
		3297	NONCLAY REFRACTORIES
		3299	NONMETALLIC MINERAL PRODUCTS, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
P4			TEXTILES
	4110		TEXTILES - WEAVING & FINISHING
		2211	BROADWOVEN FABRIC MILLS, COTTON
		2221	BROADWOVEN FABRIC MILLS, MANMADE
		2231	BROADWOVEN FABRIC MILLS, WOOL
		2261	FINISHING PLANTS, COTTON
		2262	FINISHING PLANTS, MANMADE
		2269	FINISHING PLANTS, NEC
	4120		TEXTILES - YARN & THREAD
		2281	YARN SPINNING MILLS
		2282	THROWING AND WINDING MILLS
		2284	THREAD MILLS
	4130		TEXTILES - FLOOR COVERINGS
		2273	CARPETS AND RUGS
	4140		TEXTILES - MISCELLANEOUS
		2241	NARROW FABRIC MILLS
		2257	WEFT KNIT FABRIC MILLS
		2258	LACE AND WARP KNIT FABRIC MILLS
		2295	COATED FABRICS, NOT RUBBERIZED
		2296	TIRE CORD AND FABRICS
		2297	NONWOVEN FABRICS
		2298	CORDAGE AND TWINE
		2299	TEXTILE GOODS, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
P5			PHARMACEUTICALS
	8300		PHARMACEUTICALS
		2833	MEDICINALS AND BOTANICALS
		2834	PHARMACEUTICAL PREPARATIONS
		2835	DIAGNOSTIC SUBSTANCES
		2836	BIOLOGICAL PRODUCTS, EXC. DIAGNOSTIC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
P6			CONSUMER GOODS AND AGRIBUSINESS
	7010		COMMODITY PROCESSORS
		2041	FLOUR AND OTHER GRAIN MILL PRODUCTS
		2043	CEREAL BREAKFAST FOODS
		2044	RICE MILLING
		2045	PREPARED FLOUR MIXES AND DOUGHS
		2046	WET CORN MILLING
		2047	PET FOOD
		2048	PREPARED FEEDS, NEC
		2061	RAW CANE SUGAR
		2062	CANE SUGAR REFINING
		2063	BEET SUGAR
		2066	CHOCOLATE AND COCOA PRODUCTS
		2095	ROASTED COFFEE
	7020		MEAT & FISH PRODUCTS
		2011	MEAT PACKING PLANTS
		2013	SAUSAGES AND OTHER PREPARED MEATS
		2015	POULTRY SLAUGHTERING AND PROCESSING
		2091	CANNED AND CURED FISH AND SEAFOOD
		2092	FRESH OR FROZEN PREPARED FISH
	7030		FOOD MANUFACTURERS
		2021	CREAMERY BUTTER
		2022	CHEESE, NATURAL AND PROCESSED
		2023	DRY, CONDENSED, EVAPORATED PRODUCTS
		2024	ICE CREAM AND FROZEN DESSERTS
		2026	FLUID MILK
		2034	DEHYDRATED FRUITS, VEGETABLES, SOUPS
		2035	PICKLES, SAUCES, AND SALAD DRESSINGS
		2051	BREAD, CAKE, AND RELATED PRODUCTS
		2052	COOKIES AND CRACKERS
		2053	FROZEN BAKERY PRODUCTS, EXC. BREAD
		2064	CANDY AND OTHER CONFECTIONARY PRODUCTS
		2067	CHEWING GUM
		2068	SALTED AND ROASTED NUTS AND SEEDS
		2074	COTTONSEED OIL MILLS
		2075	SOYBEAN OIL MILLS
		2076	VEGETABLE OIL MILLS, NEC
		2077	ANIMAL AND MARINE FATS AND OILS
		2079	EDIBLE FATS AND OILS, NEC
		2086	BOTTLED AND CANNED SOFT DRINKS
		2087	FLAVORING EXTRACTS AND SYRUPS, NEC

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		2096	POTATO CHIPS, CORN CHIPS AND SIMILAR SNACKS
		2097	MANUFACTURED ICE
		2098	MACARONI AND SPAGHETTI
		2099	FOOD PREPARATIONS, NEC
	7040		FRUIT & VEGETABLE PRODUCTS
		2032	CANNED SPECIALTIES
		2033	CANNED FRUITS AND VEGETABLES
		2037	FROZEN FRUITS AND VEGETABLES
		2038	FROZEN SPECIALTIES, NEC
	7100		DISTILLERS
		2082	MALT BEVERAGES
		2083	MALT
		2084	WINES, BRANDY, AND BRANDY SPIRITS
		2085	DISTILLED AND BLENDED LIQUOR
	7120		TOBACCO MANUFACTURERS
		2111	CIGARETTES
		2121	CIGARS
		2131	CHEWING AND SMOKING TOBACCO
		2141	TOBACCO STEMMING AND REDRYING
	7500		INTEGRATED CROPS
		0111	WHEAT
		0112	RICE
		0115	CORN
		0116	SOYBEANS
		0119	CASH GRAINS, NEC.
		0131	COTTON
		0132	TOBACCO
		0133	SUGAR CANE AND SUGAR BEETS
		0134	IRISH POTATOES
		0139	FIELD CROPS, EXCEPT CASH GRAINS, NEC
		0161	VEGETABLES AND MELONS
		0171	BERRY CROPS
		0172	GRAPES
		0173	TREE NUTS
		0174	CITRUS FRUITS
		0175	DECIDUOUS TREE FRUITS
		0179	FRUITS AND TREE NUTS, NEC
		0181	ORNAMENTAL NURSERY PRODUCTS
		0182	FOOD CROPS GROWN UNDER COVER
		0191	GENERAL FARMS, PRIMARILY CROP
	7510		LIVESTOCK & SERVICES
		0211	BEEF CATTLE FEEDLOTS
		0212	BEEF CATTLE, EXCEPT FEEDLOTS
		0213	HOGS
		0214	SHEEP AND GOATS
		0219	GENERAL LIVESTOCK, NEC
		0241	DAIRY FARMS
		0251	BROILER, FRYER, AND ROASTER CHICKENS
		0252	CHICKEN EGGS

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		0253	TURKEYS AND TURKEY EGGS
		0254	POULTRY HATCHERIES
		0259	POULTRY AND EGGS, NEC
		0271	FUR-BEARING ANIMALS AND RABBITS
		0272	HORSES AND OTHER EQUINES
		0273	ANIMAL AQUACULTURE
		0279	ANIMAL SPECIALTIES, NEC
		0291	GENERAL FARMS, PRIMARILY ANIMAL
		0741	VETERINARY SERVICES FOR LIVESTOCK
		0742	VETERINARY SERVICES, SPECIALITIES
		0751	LIVESTOCK SERVICES, EXCEPT VETERINARY
		0752	ANIMAL SPECIALTY SERVICES
		0912	FINFISH
		0913	SHELLFISH
		0919	MISCELLANEOUS MARINE PRODUCTS
		0921	FISH HATCHERIES AND PRESERVES
		0971	HUNTING, TRAPPING, GAME PROPAGATION
	7520		CROP SERVICES - PRODUCTION & MARKETING
		0722	CROP HARVESTING
		0723	CROP PREPARATION SERVICES FOR MARKET
		0724	COTTON GINNING
		0781	LANDSCAPE COUNSELING AND PLANNING
		0782	LAWN AND GARDEN SERVICES
		0783	ORNAMENTAL SHRUB AND TREE SERVICES
	7530		FARMER COOPS & AGRICULTURAL SERVICES
		0711	SOIL PREPARATION SERVICES
		0721	CROP PLANTING AND PROTECTING
		0761	FARM LABOR CONTRACTORS
		0762	FARM MANAGEMENT SERVICES
	8340		SOAPS
		2841	SOAP AND OTHER DETERGENTS
		2842	POLISHES AND SANITATION GOODS
		2843	SURFACE ACTIVE AGENTS
	8350		COSMETICS
		2844	TOILET PREPARATIONS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
P7			PETROLEUM
	7120		INDEPENDENT PRODUCERS
		1311	CRUDE PETROLEUM AND NATURAL GAS
		1321	NATURAL GAS LIQUIDS
	7130		REFINING & PETROLEUM PRODUCTS
		2911	PETROLEUM REFINING
		2951	ASPHALT PAVING MIXTURES AND BLOCKS
		2952	ASPHALT FELTS AND COATINGS
		2992	LUBRICATING OILS AND GREASES
		2999	PRODUCTS OF PETROLEUM AND COAL, NEC
	7140		EXPLORATION COMPANIES & FIELD SERVICES
		1381	DRILLING OIL AND GAS WELLS

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		1382	OIL AND GAS EXPLORATION SERVICES
		1389	OIL AND GAS FIELD SERVICES, NEC
	7150		WHOLESALE PETROLEUM, BULK PLANTS & SERVICES
		5171	PETROLEUM BULK STATIONS AND TERMINALS
		5172	PETROLEUM PRODUCTS, NEC
		5541	GASOLINE SERVICE STATIONS
	7210		PIPELINES
		4612	CRUDE PETROLEUM PIPELINES
		4613	REFINED PETROLEUM PIPELINES
		4619	PIPELINES, NEC
		4922	NATURAL GAS TRANSMISSION
	9987		LEASING CO. USER - NOT IBM CUSTOMER
P8			CHEMICALS
	8110		CHEMICALS
		2812	ALKALIES AND CHLORINE
		2813	INDUSTRIAL GASES
		2816	INORGANIC PIGMENTS
		2819	INDUSTRIAL INORGANIC CHEMICALS, NEC
		2821	PLASTICS MATERIALS AND RESINS
		2822	SYNTHETIC RUBBER
		2823	CELLULOSIC MANMADE FIBERS
		2824	ORGANIC FIBERS, NONCELLULOSIC
		2861	GUM AND WOOD CHEMICALS
		2865	CYCLIC CRUDES AND INTERMEDIATES
		2869	INDUSTRIAL ORGANIC CHEMICALS, NEC
		2873	NITROGENOUS FERTILIZERS
		2874	PHOSPHATIC FERTILIZERS
		2875	FERTILIZERS, MIXING ONLY
		2879	AGRICULTURAL CHEMICALS, NEC
		2891	ADHESIVES AND SEALANTS
		2892	EXPLOSIVES
		2893	PRINTING INK
		2895	CARBON BLACK
		2899	CHEMICAL PREPARATIONS, NEC
	8220		PAINT
		2851	PAINTS AND ALLIED PRODUCTS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
P9			MINING
	1310		MINING AND COAL
		1011	IRON ORES
		1021	COPPER ORES
		1031	LEAD AND ZINC ORES
		1041	GOLD ORES
		1044	SILVER ORES
		1061	FERROALLOY ORES, EXCEPT VANADIUM
		1081	METAL MINING SERVICES
		1094	URANIUM - RADIUM - VANADIUM ORES

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		1099	METALLIC ORES, NEC
		1221	BITUMINOUS COAL AND LIGNITE - SURFACE
		1222	BITUMINOUS COAL - UNDERGROUND
		1231	ANTHRACITE MINING
		1241	COAL MINING SERVICES
		1411	DIMENSION STONE
		1422	CRUSHED AND BROKEN LIMESTONE
		1423	CRUSHED AND BROKEN GRANITE
		1429	CRUSHED AND BROKEN STONE, NEC
		1442	CONSTRUCTION SAND AND GRAVEL
		1446	INDUSTRIAL SAND
		1455	KAOLIN AND BALL CLAY
		1459	CLAY AND RELATED MATERIALS, NEC
		1474	POTASH, SODA, AND BORATE MINERALS
		1475	PHOSPHATE ROCK
		1479	CHEMICAL AND FERTILIZER MINING, NEC
		1481	NONMETALLIC MINERALS SERVICES
		1499	MISCELLANEOUS NONMETALLIC MINERALS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
R1			ELEMENTARY AND SECONDARY SCHOOLS
	3100		ELEMENTARY & SECONDARY SCHOOLS
		821A	ELEM/SEC SCHOOLS - PRIVATE AND PAROCHIAL
		8211	ELEMENTARY/SECONDARY SCHOOLS - PUBLIC
		942R	ELEMENTARY/SECONDARY SCHOOLS, STATE ENTERPRISE
		952R	ELEMENTARY/SECONDARY SCHOOLS, COUNTY ENTERPRISE
		962R	ELEMENTARY/SECONDARY SCHOOLS, CITY ENTERPRISE
	9987		LEASING CO. USER - NOT IBM CUSTOMER
R2			VOCATIONAL SCHOOLS - NON PROFIT
	3900		POST HIGH/VOCATIONAL SCHOOLS - NON PROFIT
		821C	POST HIGH/VOC SCHOOLS - NON PROFIT
		942V	VOCATIONAL SCHOOLS, STATE ENTERPRISE
		952V	VOCATIONAL SCHOOLS, COUNTY ENTERPRISE
		962V	VOCATIONAL SCHOOLS, CITY ENTERPRISE
	9987		LEASING CO. USER - NOT IBM CUSTOMER
R3			CORRES., BUS., VOC. SCHOOLS-PROFIT MAKING
	5000		NON DP VOCATIONAL SCHOOLS - PROFITMAKING
		8244	BUSINESS & SECRETATIAL SCHOOLS, EXCL- DP
		8249	VOCATIONAL SCHOOLS, NEC - PROFIT MAKING
	5100		EDUCATIONAL RESEARCH, NEC
		8331	JOB TRAINING AND RELEATED SERVICES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
R4			REGIONAL SCHOOL CENTERS
	5300		REGIONAL SCHOOL CENTERS
		821B	ELEM/SEC SCHOOLS - REGIONAL CENTERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
R5			EDUCATIONAL - OTHER
	5100		MISCELLANEOUS EDUCATION
		731R	PURCHASING AGENCIES, ELEM/SEC/VOC SCHOOLS
		942A	STATE BD OF EDUCATION (K-12 ONLY)
	9987		LEASING CO. USER - NOT IBM CUSTOMER
S1			BROKERS/DEALERS
	1100		STOCK BROKERS
		6211	SECURITY BROKERS AND DEALERS
	1130		COMMODITY BROKERS
		6221	COMMODITY CONTRACTS BROKERS AND DEALERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
S2			EXCHANGES
	2100		SECURITY EXCHANGES
		6231	SECURITY EXCHANGES
	2120		SERVICES ALLIED WITH EXCHANGES
		6282	INVESTMENT ADVICE
		6289	SECURITY AND COMMODITY SERVICES, NEC
	2130		COMMODITY EXCHANGES
		623A	COMMODITY EXCHANGES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
S3			INVESTMENTS
	3140		INVESTMENT COMPANIES
		6726	INVESTMENT OFFICES, NEC
		6732	EDUCATIONAL, RELIGIOUS, ETC. TRUSTS
		6733	TRUSTS, NEC
		6792	OIL ROYALTY TRADERS
		6794	PATENT OWNERS AND LESSORS
		6799	INVESTING INSTITUTIONS, NEC
	3150		MUTUAL FUNDS
		6722	MANAGEMENT INVESTMENT COS., OPEN-END
	9987		LEASING CO. USER - NOT IBM CUSTOMER
TA			AUTO RENTAL SERVICES
	1300		AUTO RENTALS
		7514	PASSENGER CAR RENTAL
		7515	PASSENGER CAR LEASING
	9987		LEASING CO. USER - NOT IBM CUSTOMER
TB			TRAVEL AGENCIES/TOUR OPERATORS
	1310		PASSENGER TRANSPORTATION ARRANGEMENT
		4724	TRAVEL AGENCIES
		4725	TOUR OPERATORS
		4729	PASSENGER TRANSPORTATION ARRANGEMENT, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
TC			TRUCK/TRAILER RENTALS
	1320		TRUCK / TRAILER RENTALS
		7513	TRUCK RENTAL AND LEASING
		7519	UTILITY TRAILER AND RV RENTAL
	9987		LEASING CO. USER - NOT IBM CUSTOMER
TD			WATER TRANSPORTATION, PASSENGER
	5100		DEEP SEA
		4481	DEEP SEA PASSENGER TRANSPORTATION, EXC. FERRY
	5300		INLAND AND LOCAL
		4482	FERRIES
		4489	WATER PASSENGER TRANSPORTATION, NEC
	5400		WATER TRANSPORTATION SERVICES
		4493	MARINAS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
TE			AIRLINES, FREIGHT
	7930		AIR FREIGHT FORWARDING
		451A	AIR FREIGHT TRANSPORTATION
		4513	AIR COURIER SERVICES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
T1			OTHER TRANSPORTATION SERVICES
	1100		FREIGHT FORWARDERS (GROUND)
		4731	FREIGHT TRANSPORTATION ARRANGEMENT
	1200		RAILROAD CAR RENTALS
		4741	RENTAL OF RAILROAD CARS
	1500		OTHER SERVICES
		4783	PACKING AND CRATING
		4785	INSPECTION AND FIXED FACILITIES
		4789	TRANSPORTATION SERVICES, NEC
		873T	COMMERCIAL PHYSICAL RESEARCH, TRANSPORTATION
	1600		PUBLIC WAREHOUSING & TERMINALS
		4221	FARM PRODUCT WAREHOUSING AND STORAGE
		4222	REFRIGERATED WAREHOUSING AND STORAGE
		4225	GENERAL WAREHOUSING AND STORAGE
		4226	SPECIAL WAREHOUSING AND STORAGE, NEC
		4231	TRUCKING TERMINAL FACILITIES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
T2			MOTOR FREIGHT
	2100		MOTOR FREIGHT
		4212	LOCAL TRUCKING, WITHOUT STORAGE
		4213	TRUCKING, EXCEPT LOCAL
		4214	LOCAL TRUCKING, WITH STORAGE
		4215	COURIER SERVICES, EXCEPT BY AIR
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
T3			RAILROADS, FREIGHT
	3000		SWITCHING
		4013	SWITCHING AND TERMINAL SERVICES, FREIGHT
	3100		LINE-HAUL RAILROADS
		4011	RAILROADS, LINE-HAUL OPERATING, FREIGHT
	9987		LEASING CO. USER - NOT IBM CUSTOMER
T4			LOCAL & HIGHWAY PASSENGER TRANSPORTATION
	4110		TAXI, SCHOOL BUS, CHARTER & OTHER
		4119	LOCAL PASSENGER TRANSPORTATION, NEC
		4121	TAXICABS
		4141	LOCAL BUS CHARTER SERVICE
		4142	BUS CHARTER SERVICE, EXCEPT LOCAL
		4151	SCHOOL BUSES
	4120		INTERCITY BUS
		4131	INTERCITY AND RURAL BUS TRANSPORTATION
	4130		TRANSPORT MOTOR VEHICLE SERVICES
		4173	BUS TERMINAL AND SERVICE FACILITIES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
T5			WATER TRANSPORTATION, FREIGHT
	5100		DEEP SEA
		4412	DEEP SEA FOREIGN TRANSPORTATION OF FREIGHT
	5200		COASTAL, INTERCOASTAL & TERRITORIAL
		4424	DEEP SEA DOMESTIC TRANSPORTATION OF FREIGHT
	5300		INLAND & LOCAL
		4432	FREIGHT TRANSPORTATION ON THE GREAT LAKES
		4449	WATER TRANSPORTATION OF FREIGHT, NEC
		4492	TOWING AND TUGBOAT SERVICE
	5400		WATER TRANSPORTATION SERVICES
		4491	MARINE CARGO HANDLING
		4499	WATER TRANSPORTATION SERVICES, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
T6			TRANSIT & AUTO PARKING
	6000		TRANSIT
		4111	LOCAL AND SUBURBAN TRANSIT
	6100		AUTO PARKING
		7521	AUTOMOBILE PARKING
	9987		LEASING CO. USER - NOT IBM CUSTOMER
T7			AIRLINES, PASSENGER
	7010		AMERICAN DOMESTIC/INTNTL. CARRIERS
		4512	PASSENGER AIR TRANSPORTATION, SCHEDULED
	7830		NONCERTIFIED AIR TRANSPORTATION
		4522	PASSENGER AIR TRANSPORTATION, NONSCHEDULED
	7910		AIRPORTS AND FLYING FIELDS
		4581	AIRPORTS, FLYING FIELDS, & SVCS (EXC. MUNICIPAL)
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
T8			RAILROADS, PASSENGER
	3070		SWITCHING
		401B	SWITCHING AND TERMINAL SERVICES, PASSENGER
	3080		LINE-HAUL RAILROADS
		401A	RAILROADS, LINE-HAUL OPERATING, PASSENGER
	9987		LEASING CO. USER - NOT IBM CUSTOMER
U1			UTILITIES, GAS
	2000		GAS TRANSMISSION AND DISTRIBUTION
		4923	GAS TRANSMISSION AND DISTRIBUTION
	2001		GAS AND OTHER SERVICES COMBINED
		4932	GAS AND OTHER SERVICES COMBINED
	2010		NATURAL GAS DISTRIBUTION
		4924	NATURAL GAS DISTRIBUTION
	2020		GAS PRODUCTION AND/OR DISTRIBUTION
		4925	GAS PRODUCTION AND/OR DISTRIBUTION
	9987		LEASING CO. USER - NOT IBM CUSTOMER
U2			UTILITIES, ELECTRIC
	1000		ELECTRIC (ONLY) SERVICES
		4911	ELECTRIC COMPANIES AND SYSTEMS
	1001		ELECTRIC AND OTHER SERVICES COMBINED
		4931	ELECTRIC AND OTHER SERVICES COMBINED
	9987		LEASING CO. USER - NOT IBM CUSTOMER
U3			UTILITIES, COMBINATION
	3001		COMBINATION UTILITY SYSTEMS, NEC
		4939	COMBINATION UTILITIES, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
U4			OTHER UTILITIES
	4000		WATER SUPPLY
		4941	WATER SUPPLY
	6000		STEAM SUPPLY
		4961	STEAM SUPPLY
	7000		IRRIGATION SYSTEMS
		4971	IRRIGATION SYSTEMS
	9000		R & D LABORATORIES, UTILITIES
		873U	COMMERCIAL PHYSICAL RESEARCH, UTILITIES
	9987		LEASING CO. USER - NOT IBM CUSTOMER
U5			UTILITIES, GOVERNMENT
	1000		ELECTRIC (ONLY) SERVICES
		491B	ELECTRIC COMPANIES AND SYSTEMS
	1001		ELECTRIC AND OTHER SERVICES COMBINED
		493A	ELECTRIC AND OTHER SERVICES COMBINED
	2000		GAS TRANSMISSION AND DISTRIBUTION
		492C	GAS TRANSMISSION AND DISTRIBUTION
	2001		GAS AND OTHER SERVICES COMBINED

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		493B	GAS AND OTHER SERVICES COMBINED
	2010		NATURAL GAS DISTRIBUTION
		492D	NATURAL GAS DISTRIBUTION
	2020		GAS PRODUCTION AND/OR DISTRIBUTION
		492E	GAS PRODUCTION AND/OR DISTRIBUTION
	3001		COMBINATION UTILITY SYSTEMS, NEC
		493G	COMBINATION COMPANIES & SYSTEMS, NEC
	4000		WATER SUPPLY
		494A	WATER SUPPLY
	5010		SEWERAGE SYSTEMS
		495B	SEWERAGE SYSTEMS
	5020		REFUSE SYSTEMS
		495C	REFUSE SYSTEMS
	5030		SANITARY SERVICES, NEC
		495G	SANITARY SERVICES, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
U6			UTILITIES, WASTE
	5010		SEWERAGE SYSTEMS
		4952	SEWERAGE SYSTEMS
	5020		REFUSE SYSTEMS
		4953	REFUSE SYSTEMS
	5030		SANITARY SERVICES, NEC
		4959	SANITARY SERVICES, NEC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
U7			RURAL ELECTRIC COOP.
	1000		RURAL ELECTRIC ASSOCIATIONS (CO-OPS)
		491A	RURAL ELECTRIC ASSOCIATIONS (CO-OPS)
	9987		LEASING CO. USER - NOT IBM CUSTOMER
W1			DP LEASING COMPANIES
	3000		EQUIPMENT RENTAL & LEASING SERVICES
		7377	COMPUTER RENTAL AND LEASING
	9987		LEASING CO. USER - NOT IBM CUSTOMER
W2			DP EQUIPMENT BROKERS/DEALERS
	1000		DP EQUIPMENT BROKERS/DEALERS
		737K	BROKERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
W3			DP MAINTENANCE COMPANIES
	5000		DP MAINTENANCE COMPANIES
		7378	COMPUTER MAINTENANCE AND REPAIR
	9987		LEASING CO. USER - NOT IBM CUSTOMER
W4			CUSTOMER SPECULATIVE - SPLIT ENTERPRISE
	2000		CUSTOMER SPECULATIVE - SPLIT ENTERPRISE
		737S	SPECULATIVE CUSTOMERS

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
	9987		LEASING CO. USER - NOT IBM CUSTOMER
X2			DOMESTIC ORDERS - OVERSEAS DESTINATION
	9000		DOMESTIC ORDERS-OVERSEAS DESTINATION
		9997	DOMESTIC ORDERS-OVERSEAS DESTINATION
	9987		LEASING CO. USER - NOT IBM CUSTOMER
YA			FOREIGN AFFAIRS/SPECIAL OPS
	8620		INTELLIGENCE
		9186	CMU SPECIAL
	8920		CIA
		9199	CIA
	8930		STATE DEPARTMENT
		9201	STATE DEPT.
	8960		AID/OTHER
		9234	AID/OTHER
	9987		LEASING CO. USER - NOT IBM CUSTOMER
YB			NASA
	8020		NASA NATIONAL
		9020	NASA SPACE SCIENCE
		9021	NASA RESEARCH
		9022	NASA MANNED SPACE
		9142	NASA HQ
	8170		NASA/GODDARD
		9027	NASA GODDARD (WASH. D.C. ONLY)
	8260		NASA SPACE STATION
		9056	NASA SPACE STATION
	9987		LEASING CO. USER - NOT IBM CUSTOMER
YC			ENERGY/TVA/COMMERCE
	8030		DOE
		9023	ERDA/CONTR
		9028	ENERGY INFO. ADMIN.
		9244	DOE HQ-AD
	8040		NUCLEAR REG. COMM.
		9007	NRC
	8100		COMMERCE
		9015	COMMERCE
		9016	NOAA
		9053	CENSUS/PAT/NBS
	8150		TENN VALLEY AUTH (REMOTE)
		9026	TVA
	8190		OFFICE OF PERSONNEL MGT.
		9031	OPM
	8200		EDUCATION
		9033	EDUCATION
	8250		EPA
		9018	EPA

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
	8310		INDEP. AGY.
		9032	INDP. AGY.
	9987		LEASING CO. USER - NOT IBM CUSTOMER
YD			EXECUTIVE/LEGISLATIVE
	8300		HOUSE OF REPS / SENATE
		9214	HOUSE OF REPRESENTATIVES
		9215	US SENATE
	8320		LOC / GAO / GPO
		9211	GENERAL ACCOUNTING OFFICE
		9213	LIBRARY CONGRESS
		9219	GOVERNMENT PRINTING OFFICE
	8330		INTERNATIONAL (COMM)
		9216	INTERNATIONAL
	8420		EXECUTIVE GOVERNMENT
		9210	EXEC GOVERNMENT
	9987		LEASING CO. USER - NOT IBM CUSTOMER
YE			SBA/FTC
	8350		SBA / FTC
		9012	SBA/FTC
	8370		FCC / ICC
		9057	FCC/ICC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
YF			RESTRICTED
	8450		RESTRICTED 1
		9065	RESTRICTED 1
	8590		RESTRICTED SPACE
		9240	RESTRICTED SPACE
	8690		RESTRICTED SAM
		9043	RESTRICTED SAM
	8710		RESTRICTED AFS
		9042	RESTRICTED AFS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
YG			ARMY/AIR FORCE EXCHANGES (COMMISSIONABLE)
	8630		ARMY/AF EXC.(COMM) (REMOTE)
		9046	AAFES DOMESTIC
		9047	AAFES OVERSEAS
	9987		LEASING CO. USER - NOT IBM CUSTOMER
YH			INTERNATIONAL (COMMISSIONABLE)
	8331		FOREIGN GOVERNMENT EMBASSIES AND CONSULATES
		9217	FOREIGN GOVERNMENT EMBASSIES AND CONSULATES
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
YI			REGULATORY
	8010		NATIONAL SCIENCE FOUNDATION
		9009	NATIONAL SCIENCE FOUNDATION
	8060		SECURITY AND EXCHANGE COMM.
		9006	SEC
	8070		TREASURY / CUSTOMS
		9003	TREASURY DEPT
		9231	BUREAU CUSTOMS
	8080		INTERNAL REVENUE
		9004	IRS
	8090		FEDERAL DEPOSIT INSURANCE CORP
		9010	FDIC
	8440		PENSIONS
		9070	PENSIONS
	9310		FED RESERVE BOARD (FINANCE IND SNA)
		9245	FED RESERVE BD
	9987		LEASING CO. USER - NOT IBM CUSTOMER
YJ			LABOR/GSA/SMITHSONIAN
	8050		VETERANS ADMIN
		9002	VA ADMIN.
		9230	VA HOSPITALS
	8180		LABOR
		9040	LABOR
	8270		GEN. SERV. ADMIN.
		9005	GSA
	8280		SMITHSONIAN / NAS / EEOC
		9029	SMITHSONIAN / NAS / EEOC
	9987		LEASING CO. USER - NOT IBM CUSTOMER
YK			NFM/FSD - COMPLEX SYS. ORG.
	9910		NFM/FSD - COMPLEX SYS. ORG.
		901F	NFM/FSD - COMPLEX SYS. ORG.
	9920		NFM/FSD - COMPLEX SYS. ORG.
		902F	NFM/FSD - COMPLEX SYS. ORG.
	9930		NFM/FSD - COMPLEX SYS. ORG.
		903F	NFM/FSD - COMPLEX SYS. ORG.
	9940		NFM/FSD - COMPLEX SYS. ORG.
		904F	NFM/FSD - COMPLEX SYS. ORG.
	9950		NFM/FSD - COMPLEX SYS. ORG.
		905F	NFM/FSD - COMPLEX SYS. ORG.
	9987		LEASING CO. USER - NOT IBM CUSTOMER
Y1			ARMY
	0570		BELL LABS (MFG IND SNA)
		9221	BELL LABS
	8540		ARMY RFP 28W ONLY
		9071	ARMY RFP 28W ONLY
	8600		ARMY - FORSCOM

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		9055	ARMY - FORSCOM
	8610		ARMY AMC/COMMODITY CMD
		9060	ARMY AMC/COMMODITY CMD
	8720		ARMY - TRADOC
		9078	ARMY - TRADOC
	8730		ARMY - VIABLE 28W ONLY
		9066	ARMY - VIABLE 28W ONLY
	8740		ARMY - RFP 28W ONLY
		9044	ARMY - RFP 28W ONLY
	8790		ARMY PENTAGON/LOCAL
		9048	ARMY PENTAGON/LOCAL
	8800		ARMY NATIONAL GUARD / RESERVES
		9083	ARMY NATIONAL GUARD
		9084	ARMY RESERVE
	8810		ARMY PACIFIC
		9074	ARMY PACIFIC
	8820		ARMY EUROPE
		9075	ARMY EUROPE
	8830		ARMY SEPARATE COMMANDS
		9077	ARMY MISC. COMMANDS
		9222	ARMY TAGO
		9223	ARMY AUDIT
		9224	ARMY JAG
		9225	ARMY TROOP SUPPORT
	8840		ARMY AMC/LABCOM
		9061	ARMY AMC/LABCOM
	8850		ARMY PERSONNEL / RECRUITING
		9067	ARMY PERSONNEL
		9068	ARMY FINANCE
	8860		ARMY MEDICAL
		9069	ARMY MEDICAL
		9079	ARMY MTMC
		9226	ARMY WEST POINT
	8870		ARMY AMC/CORPS OF ENGINEERS
		9081	ARMY AMC/CORPS OF ENGINEERS
	8900		ARMY AMC/DEPOTS
		9062	ARMY AMC/DEPOTS
	8910		ARMY AMC/TECOM
		9064	ARMY AMC/TECOM
	8940		ARMY PANAMA
		9063	ARMY PANAMA
	8950		ARMY INFORMATION SYS COMMAND
		9072	EUROPE 5TH SIGNAL
		9073	PACIFIC 5TH SIGNAL
		9082	ARMY ISEC FT. BELVOIR
		9227	ARMY HQ FT. HAUCHUCA
		9228	ARMY ISMA FT. MONMOUTH
		9229	ARMY 7TH SIGNAL FT. RICHIE
	9987		LEASING CO. USER - NOT IBM CUSTOMER

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APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
Y2			NAVY
	8A90		ICP1
		9049	ICP1
	8B10		ICP2
		9086	ICP2
	8470		NAVY RESTRICTED
		9051	NAVY - RESTRICTED
	8480		NAVY EXECUTIVE
		9050	NAV TELECOMMU CMD
		9090	NAV EDUC/TRAINING CMD
		9091	NAV PERSONNEL/FINANCE
		9095	NAV MEDICAL CMD
		9097	NAV CNO/OPERATING FORCES
		9101	NAV DATA AUTOMATION CMD
		9102	NAV MILITARY SEALIFT CMD
		9103	NAV OCEANOGRAPHY CMD
		9104	NAV RESERVE CMD
	8490		NAVY SYSTEMS CMD 1
		9094	NAV CONTRACTORS
		9107	NAV SUPPLY SYS CMD
	8500		NAVY SYSTEMS CMD 2
		9092	NAV ELECTRONICS CMD
		9093	NAV LABS/R & D CTRS
		9098	NAV SEA SYS CMD
		9100	NAV FACILITY CMD
		9105	NAV MATERIAL HQ
		9108	NAV AIR SYS CMD
		9111	NAV MAT. FIELD ACCOUNT
	8510		MARINE CORPS
		9113	MARINE CORPS
	8980		SPAR
		9076	SPAR
	9987		LEASING CO. USER - NOT IBM CUSTOMER
Y3			AIR FORCE/JOINT DEFENSE
	8A80		SWPS PROJECT
		9099	SWPS PROJECT
	8400		DEF. COMMUNICATION AGENCY
		9143	DCA-JT. DATA SYS. SUPT. AGENCY
		9144	DCA WORLD WIDE ON-LINE SYS.
		9145	DCA-DEF. COMM. OPER. SUPT. SYS
	8520		AF MAC/TRANSCOM
		9114	AF CTRS-RES-GRD
		9118	AF EUR-PAC-ALAS
		9123	AF COMM. CMD
		9239	AF MIL AIRL CMD
	8530		MIL SPACE
		9116	AF CONTRACTOR - MIL SPACE
		9129	AF AEROSPACE CORP

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
		9131	AF SYST. DEVEL. CORP
		9133	AF FSD SPACE
		9134	AF SAMSO GENERAL
		9136	AF SCF
		9137	AF SAMTEC
		9138	AF SAMSO WESTOVER
		9141	AF TEST RANGE
		9233	AF AESC
	8550		AIR FORCE PENTAGON (WASH. D.C. ONLY)
		9241	AIR FORCE PENTAGON (WASH. D.C. ONLY)
	8560		AF/DOD COMMAND & CONTROL
		9146	JCS - WISCUC
		9159	DOD COMMAND & CONTROL
		9165	JCS JOINT CMDS
	8570		DEFENSE LOGISTICS/DEF. NUCLEAR AGENCY
		9148	DLA-DEPOTS
		9149	DLA-SUPPLY CTRS
		9151	DLA-SVCS.CTRS
		9152	DLA-DCASRS
		9153	DOD-DEF. NUCLEAR AGENCY
		9154	DLA-OTHER
	8580		AF LOG CMD (REMOTE)
		9117	AF LOG CMD
	8750		AF TACTICAL AIR CMD.
		9242	AF TAC
	8760		AF SYS. CMD.
		9119	AF SYS. CMD.
	8770		AF STRATEGIC AIR CMD
		9246	AF SAC
	8780		AF WEAPONS CONTRACTOR
		9128	AF CONTRACTORS
		9247	AF WEAPONS CONTR.
	8880		AF SUPPORT COMMANDS
		9045	AF LESSER COMDS AND OVERSEAS
		9052	AF NON AP FND
		9120	AF TRAINING CMD
		9122	AF MISC.
		9124	AF INSP. & SAFETY
		9238	AF COMMISSARY
	8990		DEPT. OF DEFENSE
		9147	DOD-DEPENDENT SCHOOLS
		9150	DOD-DEF. COMM. ENGR. CTR
		9155	DOD-SECURITY AUDIT AGENCY
		9156	DOD-ADVNCD RSCH. PROG. AGENCY
		9157	DOD-DEF. AUDIT AGENCY
		9158	DOD-DEF. CONTRACT AUDIT AGENCY
		9160	DOD-OFF. SECR. DEF. FLD. AGENCY
		9161	DOD-UNIFORM SERV. UNIV. HOSP. SYS
	9987		LEASING CO. USER - NOT IBM CUSTOMER

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APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
Y4			HEALTH
	8160		H&HS/SOCIAL SECUR.
		9034	H&HS/SSA
	8210		H&HS NIH/RJE
		9039	H&HS NIH/RJE
	8220		H&HS/NIH
		9035	H&HS/NIH
	8230		H&HS PCC INDIAN HEALTH/FDA
		9038	H&HS PCC INDIAN HEALTH/FDA
	8240		H&HS/ADMIN
		9036	H&HS/ADMIN
	8290		H&HS/NAT. LIB. MED.
		9037	H&HS/NAT. LIB. MED.
	8360		H&HS HRSA/ADAMHA
		9011	H&HS HRSA/ADAMHA
	8380		H&HS OASH
		9058	H&HS OASH
	8460		TERM. ACQUISITION PROJECT
		9059	TERM. ACQUISITION PROJECT
	9987		LEASING CO. USER - NOT IBM CUSTOMER
Y5			FAA/TRANSPORTATION
	8000		FAA
		9000	FAA-LOCAL (WASH. D.C. ONLY)
		9001	FAA-NATIONAL
		9008	FAA - NATIONAL ADMIN.
		9085	FAA - LOCAL ADMIN. (WASH. D.C. ONLY)
	8110		TRANSPORTATION
		9017	DOT
	8120		DOT/HWY ADM/MARTME/ST. LAW
		9014	DOT/HWY ADM/MARTME/ST. LAW
	8390		FAA - DRA
		9054	FAA - DRA
	9987		LEASING CO. USER - NOT IBM CUSTOMER
Y6			SECURITY/DEF INTELLIGENCE
	8650		SECURITY-1
		9185	SECURITY-1
	8660		SECURITY-2
		9187	SECURITY-2
	8670		DEF. INTELLIGENCE
		9189	INTEL - ARMY
		9191	INTEL - NAVY
		9193	INTEL - AF
		9195	DIA
		9198	INTEL - OTHER
	8680		DEF. INVESTIGATIVE UNITS
		9080	DEF. INVESTIGATIVE UNITS
	9987		LEASING CO. USER - NOT IBM CUSTOMER

APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
Y7			INTERIOR/AGRICULTURE
	8A70		AG. FT COLLINS
		9243	AG. FT COLLINS
	8130		INTERIOR
		9024	INTERIOR DEPT
		9025	GEOLOGICAL SURVEY
		9030	FED. CHART. INDIAN TRIBES
	8140		AGRICULTURE
		9013	FARM CREDIT ADMIN.
		9019	AGRICULTURE
	8640		HOUSE URBAN DEV.
		9041	HOUSE URBAN DEV.
	9987		LEASING CO. USER - NOT IBM CUSTOMER
Y8			USPS
	8A10		USPS/SFC - NORTHEAST
		9248	USPS/SFC-NORTHEAST
	8A20		USPS/SFC - EAST
		9249	USPS/SFC-EAST
	8A30		USPS/SFC - CENTRAL
		9251	USPS/SFC-CENTRAL
	8A40		USPS/SFC - SOUTH
		9250	USPS/SFC-SOUTH
	8A50		USPS/SFC - WEST
		9252	USPS/SFC-WEST
	8A60		USPS FLD/OP SPT
		9106	USPS FLD/OP SPT
	8410		USPS
		9202	USPS - NORTHEAST
		9203	USPS - EAST
		9204	USPS - SOUTH
		9205	USPS - CENTRAL
		9206	USPS - WEST
		9207	USPS - WASH
	9987		LEASING CO. USER - NOT IBM CUSTOMER
Y9			JUSTICE/FBI
	8430		JUSTICE
		9208	JUDICIARY
		9209	DEPT. OF JUSTICE
		9236	DRUG ENFORCEMENT ADM
		9237	DOJ-PRISONS
	8700		FBI
		9235	FBI
	9987		LEASING CO. USER - NOT IBM CUSTOMER
Z1			O.E.M. SALES - FOR SUBSEQUENT RESALE
	1000		O.E.M. SALES FOR SUBSEQUENT RESALE
		357X	O.E.M. SALES FOR SUBSEQUENT RESALE

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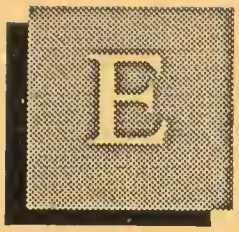
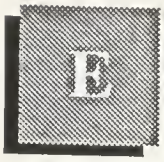
APPENDIX C. SIC CODES BY INDUSTRY CLASS AND CATEGORY

IN CL	CATG CODE	SIC CODE	DESCRIPTION
	2000		O.E.M. INSTALLATION FOR PRODUCT DEVELOPMENT/TEST
		357Y	O.E.M. INSTALLATION FOR PRODUCT DEVELOPMENT/TEST
	3000		O.E.M DIVISION RESTRICTED ACCOUNT
		357Z	O.E.M. DIVISION RESTRICTED ACCOUNT
	9987		LEASING CO. USER - NOT IBM CUSTOMER
Z3			SALES TO PC RETAILERS
	1000		SALES TO PC RETAILERS
		893R	SALES TO PC RETAILERS
	9987		LEASING CO. USER - NOT IBM CUSTOMER



Relevant INPUT Definitions



Appendix: Relevant INPUT Definitions

C5. Systems Integration (SI)

Systems integration is a business offering that provides a complete solution to a complex information system, networking, or automation requirement through the custom selection and implementation of a variety of products and services. A system integrator is responsible for overall management of a systems integration contract and is the single point of contact and responsibility to the buyer for delivery of the specified system function—and on schedule and at the contracted price.

Systems integration projects always involve some information processing component. The integration and/or management of networks and communications systems without any information processing component is included under Professional Services—Systems Operations.

The systems integrator will perform, or manage others who perform, most or all of the following functions:

- Program management, including subcontractor management
- Needs analysis
- Specification development
- Conceptual and detailed system design/architecture
- System component selection, modification, integration, and customization
- Custom software design and development
- Custom hardware design and development

- System implementation, including testing, conversion, and postimplementation evaluation and tuning

- Life cycle support, including:
  - System documentation and user training
  - System operation during development
  - System maintenance

- Financing

C6. Professional Services

This category includes consulting, education and training, software development, and systems operations as defined below.

- *Consulting*- Services include information systems and management consulting, feasibility analysis and cost-effectiveness studies, and project management assistance. Services may be related to any aspect of information systems—including hardware, software, and networks and systems operations.

- *Software Development* - Services include user requirements definition, systems design, contract programming, documentation, and implementation of software performed on a custom basis.

- *Education and Training* - Products and services related to information systems and services for the user, including computer-aided instruction, computer-based education, and vendor instruction of user personnel in operations, contract programming, and documentation.

- *Systems Operations*—Professional Services (Client-Provided Equipment) - Management and control of all or part of a client's data processing and/or network functions. The computing equipment is owned or leased by the client; the vendor provides the staff to operate, maintain, and manage the client's facilities and equipment. See the definition of Systems Operations—Processing Services for more information on the distinction between these two categories of Systems Operations.

D1. Computer Systems

Computer systems include all processors from microcomputers to supercomputers. Computer systems may require type- or model-unique operating software to be functional, but this category excludes applications software and peripheral devices.

- *Microcomputer (Personal computer)* - Priced below $15,000. Combines the CPU, memory, and peripheral functions of an 8-, 16-, or 32-bit computer on a chip in the form of:

  - Integrated circuit package
  - Plug-in board with memory and peripheral circuits
  - Console including keyboard and interfacing connectors
  - At least one external storage device directly addressable by the CPU

- *Workstation* - Priced between $15,000 and $100,000. An integrated multifunctional workstation capable of routine high-speed communications with mini and mainframe computers and of performing complex local processing. While similar to microcomputers, the workstation typically will have high-performance 16- or 32-bit architectures, plus greater graphics and integrated communications capabilities.

- *Minicomputer* - Priced between $15,000 and $350,000. Usually a 16- or 32-bit computer. May represent a portion of a larger system or a complete standalone system by itself.

  - Small business computer
  - Small laboratory computer
  - Nodal computer in a distributed data network, remote data collection network, or connected network— or connected to remote microcomputers

- *Mainframe* - Priced above $350,000. Typically a 32- or 64-bit computer with extensive applications software and a number of peripherals in standalone or multiple-CPU configurations for business (administrative, personnel, and logistics) applications; also called a general-purpose computer.

- *Supercomputer* - High-powered processors with numerical processing throughout that is significantly greater than the fastest general-purpose computers, with capacities in the vicinity of 10-50 million floating point operations per second (MFLOPS). Supercomputers fit in one of two categories:

  - *Real Time* - Generally used for signal processing in military applications.

  - *Non-Real Time* - For scientific use in one of three configurations:

  - Parallel processors
  - Pipeline processor
  - Vector processor

- *Embedded Computer* - Dedicated computer system designed and implemented as an integral part of a device such as an automobile, machine tool, weapon, weapon system, or platform; limited but reprogrammable applications software and permanent or semipermanent interfaces. May vary in capacity from microcomputers to parallel processor computer systems.

D2. Other Computer Equipment

This category includes all computer and telecommunications equipment that can be separately acquired with or without installation by the vendor and that is not acquired as part of an integrated system.

- *Peripherals* - Includes all input, output, communications, and storage devices (other than main memory) that can be connected locally to the main processor and generally cannot be included in other categories such as terminals

- *Input Devices* - Includes keyboards, numeric pads, card readers, light pens and track balls, tape readers, position and motion sensors, and analog-to-digital converters

- *Output Devices* - Includes printers, CRTs, projection television screens, micrographics processors, digital graphics, and plotters

- *Communication Devices* - Includes modems, encryption equipment, special interfaces, and error control

- *Storage Devices* - Includes magnetic tape (reel, cartridge, and cassette), floppy and hard disks, solid state (integrated circuits), and bubble and optical memories

- *Terminals* - Three types of terminals are described below:

  - *User-Programmable* - Also called intelligent terminals, including:

    - Single-station or standalone
    - Multistation shared processor
    - Teleprinter
    - Remote batch

- *User Nonprogrammable*

  - Single-station
  - Multistation shared processor
  - Teleprinter

- *Special Function* - Originally developed for specific needs, such as point-of-sale (POS), inventory data collection, controlled access, and other applications.

F1. Industry Sector Definitions (Vertical Markets)

INPUT has structured the information services market into 15 generic industry sectors, such as process manufacturing, insurance, transportation, etc. The definitions of these sectors are based on the 1987 revision of the Standard Industrial Classification (SIC) Code system. The specific industries (and their SIC Codes) included under these generic industry sectors are detailed in the attached exhibit.

F2. Cross-Industry Sector Definitions (Horizontal Markets)

In addition to these vertical-industry sectors, INPUT has also identified seven cross-industry or horizontal market sectors. These sectors, or markets, involve multi-industry applications such as human resource systems, accounting systems, etc. In order to be included in an industry sector, the service or product delivered must be specific to that sector only. If a service or product is used in more than one industry sector, it is counted as cross-industry. The seven cross-industry markets are:

- *Human Resource Systems*
- *Education and Training*
- *Office Systems*
- *Accounting Systems*
- *Engineering and Scientific Applications*
- *Planning and Analysis Systems*
- *Other Applications (including telemarketing and electronic publishing)*